University of Alberta

Exploring Education for Sustainable Development: Its Theory and Practice in Philippine Higher Education Institutions

by

Caridad S. Bernardino ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment
of the requirements for the degree of Doctor of Philosophy

in

International/Intercultural Education

Department of Educational Policy Studies

Edmonton, Alberta
FALL 2000

National Library
of Canada

Acquisitions and
Bibliographic Services

395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale
du Canada

Acquisitions et
services bibliographiques

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-59564-1

Canadä

University of Alberta

Library Release Form

Name of Author: Caridad S. Bernardino

Title of Thesis: Exploring Education for Sustainable Development: Its Theory and Practice in Philippine Higher Education Institutions

Degree: Doctor of Philosophy

Year this Degree Granted: 2000

Permission is hereby granted to the University of Alberta Library to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only.

The author reserves all other publications and other rights in association with the copyright in the thesis, and except as herein before provided, neither the thesis nor any substantial portion thereof may be printed or otherwise reproduced in any material form whatever without the author's prior written permission.

Caridad S. Bernardino

4116-131 Avenue
Edmonton, AB
T5A 2S7

8-17-2000

UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled **Exploring Education for Sustainable Development: Its Theory and Practice in Philippine Higher Education Institutions** submitted by Caridad Bernardino in partial fulfillment of the requirements for the degree of Doctor of Philosophy in International/Intercultural Education.

Dr. Swee-Hin Toh (Co-Supervisor)

Dr. Virginia Cawagas (Co-Supervisor)

Sue M. Scott
Dr. Sue Scott

Dr. Terrance Carson

Olenka Bilash
Dr. Olenka Bilash

Wallie Samiroden
Dr. Wallie Samiroden

Dr. Robert Zuber (External Examiner)

Date: 21/7/08

Abstract

The intent of this research inquiry is to explore tertiary teachers' understandings of the theory and practice of education for sustainable development. The literature on sustainable development presents its ambiguities and contradictions. Through conversations with thirteen research participants from two higher education institutions in Southern Philippines, the question, "What is education for sustainable development?" was interpreted hermeneutically in the light of teachers' lived realities and experiences. A qualitative research approach and principles from Gadamer's philosophical hermeneutics guided the inquiry. The implementation of education for sustainable development in the two institutions was investigated through interviews, participant observations and document analysis.

Through conversations, the teachers' interpretations of sustainable development and education for sustainable development expanded into wider circles of understanding. The texts are organized into broader categories or themes. Data presentation is individually and thematically-based. Reflections follow each presentation of data. The implementation of education for sustainable development in the two institutions is described and interpreted in terms of their vision-mission, activities, community linkages and pedagogical and research strategies. The process of triangulation responds to the criteria of trustworthiness and credibility of the data.

Several contradictions and dilemmas were revealed in the conversations. These involved: a) a contradiction between personal and public responsibility of caring for the environment; b) a contradiction between the concept of sustainable development as environment and development and as environment versus development; c) a local/global dilemma; and d) a dilemma in the integration of environmental education amidst the need for reforms in education. Reflections on the conversations with the participants disclosed a desire for change in education in terms of goals, curricular structure and pedagogy. The

significance of human agency as highlighted in the teachers' tales of empowerment and the research process itself present possibilities to make the practice of education for sustainable development an alive and dynamic experience in their personal and professional lives. The hermeneutic process led to the participants' understanding of themselves as ESD educators. The inquiry also offers possibilities for the two institutions and national environmental and educational agencies for a more effective implementation of education for sustainable development in both formal and nonformal contexts by bringing the voices of implementors in the process of policy-making and leadership. Leaving the conversations open brings an invitation to interested scholars or organizations in both North and South countries to join in this ongoing process of interpretation and dialogue. Reflections on the subject and the process of inquiry situate education for sustainable development as the hope for the earth and for life.

Acknowledgment

I wish to acknowledge the help and significant contributions of the many kind-hearted people who guided and walked with me in this research journey. I would like to express my sincere thanks and appreciation for the precious time, God-given gifts, wisdom, understanding, inspiration and support they have extended throughout the course of the research.

My deepest gratitude goes to Dr. Toh Swee-Hin, for the wonderful opportunity to do this study and for being a true mentor. I sincerely appreciate his giving of his time to guide me towards a clearer vision of the object of the research through long discussions and dialogue which helped me immensely to broaden and deepen my insights and enabled me to adopt a more critical approach in my reflections and analysis as well as in the writing of the thesis. I thank him for inspiring me to go on and to move forward amidst an array of challenges, but most importantly, for his faith in my ability to pursue this research quest. Likewise, I specially thank Dr. Virginia Cawagas for going through my work in spite of her very hectic schedule and for her very useful suggestions on how to further improve the thesis. I am also very grateful to Dr. Sue Scott for sharing her ideas and strategies on how to organize my research themes and for her enthusiastic support. I sincerely thank Dr. Terry Carson for patiently guiding me through the complex maze of hermeneutics which helped me gain a better understanding of doing interpretive work

I also wish to express my thanks to: Dr. Olenka Bilash and Dr. Wallie Samiroden for their insightful comments, valuable suggestions and encouragement; Dr. Robert Zuber, my external examiner, for his very instructive feedback; and Dr. Henry Hodysh, chair of my examining committee, for his reassuring words and helpful pointers in preparation for the exams.

My gratitude also goes to all the administrators, teachers, staff and students of Saint Mary's University and South Plains State College, the representatives from the different government agencies, the church, the media and NGOs as well as all the "friends of the Earth" in Cotabato City who participated and contributed to this research undertaking. I acknowledge their invaluable help in various forms, and the hospitality and friendship they accorded me during the data collection process. Most of all, I thank my co-researchers, Jerry, Alex, Fatima, Estela, Kris, Jenny, Teresa, Arlene, Tina, Bernie, Sarah, Joyce and Ali for joining me in this research journey. They have invested so much of their time, energy and themselves in being a part of the study. I cherish the beautiful ideas they shared and their willingness and cooperation to collaborate in this research. (Note: In line with research ethical guidelines, I have used different names for my co-researchers and for the participating institutions hence, I am also unable to use the real names of all those who, in one way or another, were involved in the study). At this point, I also wish to acknowledge with gratitude the generosity of Asia-Pacific Foundation of Canada for the travel grant award given me for my research field trip to the Philippines.

I also wish to thank Ms. Noela Lasmarias, Environment Advisor, Philippine-Canada Cooperation Office, Ms. Amelia Supetran, Chief, Environmental Education and Information, Environmental Management Bureau (EMB), Ms. Elenida del Rosario-Basug, Section Chief for Environmental Education, EMB, Ms. Zenaida L. Villaescuza, Director, International Affairs Office, Commission on Higher Education (CHED), Ms. Benjamina Flor, Chief, M & E Division, CHED, Sr. Luz Emmanuel Soriano, President, Philippine Council for Peace and Global Education, Mr. Edgardo Tongson, Executive Director, Haribon Foundation, Ms. Ma. Victoria Maglana, program manager for Development Education and Institution Building, Philippine Development Assistance Program and Mr. Onesimo Tabako, Director, Kinaiyahan Foundation, for sharing their ideas and experiences in striving for the promotion of environmental care in the Philippines which provided me with a wealth of background information on the environmental situation.

I sincerely appreciate the help of my expanded circle of family and friends, the members of LINGAP Institute, LSA, Club IDC and ~~the church~~ groups like the Legion of Mary and CFC who, even in those moments of challenges and struggle, stood by me to offer the gift of faith. I am also very grateful to my wonderful friends and the staff in the EPS Department for their encouraging words and show of support throughout the duration of the research process.

Finally, I thank my family for their love and support especially to Aurora who had been most helpful throughout the duration of my study. Most of all, I sing my praises and thanks to the Almighty, the source of Light in the pursuit of this research endeavor.

TABLE OF CONTENTS

Page
CHAPTER ONE: BACKGROUND TO THE STUDY 1

The Global Ecological Crisis 1
The Philippine Environmental Context 5
Environmental Education in the Philippines 14
Issues of Personal Interest 17
Questions of Identity 21
The Research Question 23
Significance of the Research 26
Organization of the Study 27

CHAPTER TWO: CONCEPTUAL FRAMEWORK 29

Introduction 29
The Concept of Sustainable Development 29
Sustainable Development in the Philippines 48
Education for Sustainable Development 57
Education for Sustainable Development in the Philippines 66

CHAPTER THREE: RESEARCH STRATEGIES 71

Introduction 71
A Qualitative Research Approach 71
The Conduct of the Study 72
Exploring Meanings of Sustainable Development (SD) and Education for Sustainable Development (ESD) 72
Adopting a Hermeneutic Mode of Inquiry 72
The Hermeneutic Tradition 73
  Historicality of Understanding 78
  The Hermeneutic Circle 79
  Prejudices as Conditions of Understanding 79
  Temporal Distance and Its Hermeneutic Significance 80
  Effective History 81
  Language as the Medium of Hermeneutical Experience 81
The Research Site 82
Entry to the Research Site 83
Identifying the Research Participants 84
Orientation Meeting with Participants 84

The Research Participants 85
Conversations as a Research Strategy 86
The Conversation Sessions 87
The Implementation of ESD 89
In-depth Interviews 90
Participant Observations 91
Document Analysis 92
Data Presentation and Interpretation 92
Data Validation 93
Ethical Considerations 94

CHAPTER FOUR: THE CONCEPT OF SUSTAINABLE DEVELOPMENT (SD) 96

Introduction 96
    JERRY 99
    ALEX 109
    FATIMA 117
    ESTELA 126
    KRIS 132
    JENNY 136
    TERESA 140
    ARLENE 144
    TINA 148
    BERNIE 152
    SARAH 157
    JOYCE 160
    ALI 163
Reflections 168

CHAPTER FIVE: THE CONCEPT OF EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD) 199

Introduction 199
    JERRY 201
    ALEX 210
    FATIMA 221
    ESTELA 229
    KRIS 238
    JENNY 248
    TERESA 255

ARLENE 261
TINA 267
BERNIE 274
SARAH 281
JOYCE 286
ALI 291
Reflections 298

CHAPTER SIX: THE IMPLEMENTATION OF EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD) 316

Introduction 316
National Policies and Goals 317
The Implementation of ESD at St. Mary's University 324
    Education for Sustainable Development Policies 324
    The Vision-Mission 325
    University Programs 329
    The Integration of ESD in the Different Subject Areas 332
    ESD Themes in the Course Syllabi 333
    Education for Sustainable Development and Pedagogical Strategies 336
The Implementation of ESD at South Plains State College 342
    Education for Sustainable Development Policies and South Plains State College's Vision-Mission 342
    Academic Programs 346
    The Integration of ESD in the Different Subject Areas 348
    ESD in the Course Syllabi 348
    Education for Sustainable Development and Pedagogical Strategies 348
Other ESD Initiatives 350
Education for Sustainable Development in the Two Institutions 351
Reflections 354

CHAPTER SEVEN: TOWARDS AN EDUCATION FOR SUSTAINABLE DEVELOPMENT: WHAT ARE THE INSTITUTIONAL POSSIBILITIES? 358

Ripples in a Placid Pond 358
The Research Question Revisited 362
The Research Context 365
Education for Sustainable Development: What Does It Mean? 371
Contradictions/Dilemmas in the Practice of ESD 373

A Contradiction between Personal and Public Responsibility of Caring for the Environment 373
A Contradiction between the Concept of SD as Environment and Development and as Environment vs. Development 380
A Local/Global Dilemma 384
A Dilemma on the Integration of Environmental Education and the Need to Transform Education 387
Reflections on the Teachers' Conversations 393
Reflections on the Critical Literature on Sustainable Development 400
Self-Reflections as an ESD Educator 406
The Way Ahead: Some Possibilities for ESD 410
The Pond Beckons 418

Bibliography 422

Appendix A: A Description and Analysis of the Curricular Resource Materials, Research Projects and ESD Initiatives and Community Linkages in the Two Institutions Involved in the Study 443

Appendix B1 Map Showing the Philippines' Geographic Position in South East Asia 461

Appendix B2 Map Showing the Location of the Mindanao Region in the Philippines 462

Appendix B3 Map Showing the Location of Cotabato City in Central Mindanao 463

LIST OF ACRONYMS

APEC	Asia-Pacific Economic Cooperation
ARMM	Autonomous Region of Muslim Mindanao
ASEAN	Association of Southeast Asian Nations
BIMP-EAGA	Brunei, Indonesia, Malaysia, Philippines-East ASEAN Growth Area
CBCP	Catholic Bishops Conference of the Philippines
CHED	Commission on Higher Education
DECS	Department of Education, Culture and Sports
DENR	Department of Environment and Natural Resources
DOH	Department of Health
DOST	Department of Science and Technology
EDPITAF	Educational Development Projects Implementing Task Force
EE	Environmental Education
EEID	Environmental Education and Information Division
EMB	Environmental Management Bureau
ESD	Education for Sustainable Development
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNP	Gross National Product
IUCN	International Union for Conservation of Nature and Natural Resources
MNLF	Moro National Liberation Front
MTPDP	Medium Term Philippine Development Plan
NCSD	National Councils for Sustainable Development
NEDA	National Economic Development Authority
NEEAP	National Environmental Education Action Plan
NEPC	National Environmental Protection Council
NGO	Nongovernmental Organization
NIC	Newly Industrializing Country
PA 21	Philippine Agenda 21
PCSD	Philippine Council on Sustainable Development
PEC	Peace Education Center
PNOC	Philippine National Oil Company
PO	People's Organizations
PSSD	Philippine Strategy on Sustainable Development
SD	Sustainable Development
SMU	Saint Mary's University
SPCPD	Southern Philippines Council for Peace and Development
SPSC	South Plains State College
SRA	Social Reform Agenda
SZOPD	Special Zone of Peace and Development
TLA	Timber Licensing Agreement

TNC	Transnational Corporations
UNCED	United Nations Conference on the Environment and Development
UNCHE	United Nations Conference on the Human Environment
UNEP	United Nations Environment Programme
UNDP	United Nations Development Program
UNESCO	United Nations Educational Scientific and Cultural Organization
UPLB	University of the Philippines, Los Banos
WCED	World Commission on Environment and Development

CHAPTER ONE

BACKGROUND TO THE STUDY

The Global Ecological Crisis

Concerns over the state of degradation of our global environment have grown with increasing resonance over the past decade. Global warming, desertification, deforestation, pollution, population pressures and natural resource depletion are major environmental problems with short-term and long-term impacts on the very survival of planet Earth and all species, including human beings (Redclift, 1984; WCED, 1987; Timberlake, 1989; Brown, 1991; Brundtland, 1988; MacNeill, Winsemius & Yakushiji, 1991; Goodland, 1996; Linden, 1997). The call for a halt to environmental destruction and pillage and the need for social and economic reforms have been strongly acknowledged by leaders from both North and South countries during the Earth Summit in Rio de Janeiro in 1992 which led to the adoption of Agenda 21, the blueprint for sustainability for the twenty-first century (Quarrie, 1992). Likewise, and indeed predating this concern of governments, the threat of a looming global environmental crisis has been articulated by environmentalists, people's movements and concerned citizens worldwide (Brown, 1991).

The World Commission on Environment and Development (WCED) gave greater impetus to the integration of environmental concerns and development goals on the broader concept of sustainable development. It has defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their needs" (WCED, 1987, p.43). Giving birth to the term "sustainable development," this linkage between environment and development not only generated a lot of debate over the WCED paradigm but has likewise, highlighted the many complex issues surrounding the North-South environment and development dilemma. Furthermore, with the end of the Cold War followed by the emergence of a new world order, a new battle cry has emerged: the call for planetary survival in "Save Planet Earth!"

The foreseen ecological crisis is a reality of serious contingency and failure to act immediately means irreversible repercussions to the planet that could deny the rights of the young and future generations to enjoy the benefits the Earth has to offer. In its global context, the situation reveals the underlying power relationship between the North and the South which has spawned the hegemony of the North. This is clearly manifested in the inequitable use of resources and unsustainable development strategies compounded by questions of cultural, social and political import but which have found legitimacy in the dominant modernization discourse. As the twenty-first century unfolds however, the impact of such a scheme of development on the environment has rendered problematic several modernization assumptions and transnational practices that have dominated and governed our knowledges, understandings, values and attitudes and have tended to undermine indigenous epistemology, traditions and culture.

The current wave of globalization sweeping South countries is generating a host of environmental problems that continues to wreak havoc on the world. With transnational corporations (TNCs) dominating the global economic arena, a chain of environmental, political, social and cultural dilemmas is created and re-created which reinforces the prevailing international economic and power structure. The global economy has given birth to a consumer society trapped in a culture of unbridled mass consumption leaving South countries riddled in debt and drained of resources (George,1986; Imber, 1994). With electronic media and sophisticated information technology, not only is the unsatiable desire for consumer goods successfully promoted but also the creation of artificial needs (Durning, 1991; Thayer, 1994) thus, generating a great demand for resources in order to increase production (Goldsmith, 1996). This situation leads the South to a vicious cycle of poverty as they welcome the entry of mobile TNCs to boost their economy, generate jobs and accelerate technology transfer. With the alliance of powerful elites, TNCs get past minimum environmental requirements and are given many incentives by the host government (George, 1986; Toh, 1987; Khor, 1996).

As resources are gobbled up by TNCs to meet the need for greater production, a series of environmental effects spirals. In the case of logging and mining companies, the depletion of forest resources causes flash floods, soil erosion and siltation. The toxic wastes of mining companies often dumped in rivers or streams pollute the air, water and the land which is detrimental to the survival, health and state of well being of all species. When land is affected, agricultural production declines and food becomes scarce. Hence, the need to import even basic commodities arises. As rivers and lakes get polluted, marine resources also dwindle. The food supply is adversely affected as the continuity of the food chain gets disrupted. With these conditions, South countries are more and more ensnared in the debt trap (George, 1987; Korten, 1991; Imber, 1994). They export their raw materials for the much-needed dollars to service interest payments on foreign debt. As the resources get exhausted, the country's chance of attaining economic recovery becomes nil. Thus, the vicious cycle of poverty revolves in South countries and the lop-sided structure of North-South relations remains. This scenario basically illustrates the inseparable link between environment and development and explains why international fora on global environmental management have not been able to resolve the environmental dilemmas along the concept of global environmental justice (Jamieson, 1994) and to institute effective environmental policies and enforcement mechanisms in the global level (Devlin & Yap, 1994). It is true that the clamor for ecological reforms which have been vigorously advocated, articulated and pursued by environmentalists, nongovernmental organizations (NGOs), government agencies and concerned citizens has led to the formulation and ratification of global treaties, conventions, charters and laws. Nevertheless, Maurice Strong, Secretary General of the Earth Summit in Rio de Janeiro has noted with lament that while there had been some modest gains, "on the whole, the deterioration of the earth has actually worsened" (PDI, 1996, Oct.12, p.6). Ismail

Serageldin (1997), in his foreword to the World Bank's Environment Department publication, "Advancing Sustainable Development: The World Bank and Agenda 21," echoed the same concern:

> While the past five years have brought some progress, it is not as much as we had expected---and certainly, less than we had hoped. Tropical forest cover, wetlands, and other natural habitats collectively have declined by 3.5 percent. Global carbon emissions have increased by 4 percent. One-and-a-half billion people still live with dangerous air pollution, 1 billion people without adequate sanitation. During this period, the world's gross domestic product has increased by 2.4 trillion, but investment in sustainable development has not kept pace. Furthermore, what has been invested has not been used as cost-effectively as it could have been. (p.vii)

The present state of the environment in tandem with development clearly indicates that while environmental awareness has been growing in several corners of the world, the commitment to address these issues by governments and private sector organizations especially local and global business, has not been strong enough to produce a real impact. Hence, there is a pressing need for a more vigorous effort among countries to identify the sustainable development agenda as an integral part of international development fora so that the challenges could be truly and effectively addressed. This calls for a paradigmatic shift in the way sustainable development is viewed in both North and South countries inasmuch as the issue of the environment is a global concern and transcends national boundaries.

Sustainable development therefore, calls for a redefinition of our relationship with the environment and a reconceptualization of the process of development. It demands a radical transformation in people's perspectives, values and lifestyles to one that promotes environmental care and sustainable living. It is imperative therefore that countries examine and reformulate their development policies and implement ecological, economic and social reforms in the transition towards sustainability.

As contained in Agenda 21, (Quarrie, 1992), promoting education, public awareness and training is vital to the attainment of sustainable development. The document recognizes both formal and nonformal education as effective means for citizens to develop awareness of environmental issues and to address sustainable development concerns. Although Agenda 21 is a document of the '90s, the work of teachers, nonformal educators and NGOs worldwide in promoting environmental awareness and saving planet Earth has been vital in building up social and political advocacy for government action. As a catalyst in the process of personal and societal transformation, education encourages people to engage in a critical reflection of their situations viz-a-viz their relationship with the environment. Education is deemed to be a vital key to people's empowerment in the struggle for sustainability.

Nonetheless, as such advocacy and action is underway, it is important to examine carefully the assumptions, goals, purposes and practices of Education for Sustainable Development (ESD). This study endeavors to look at the theory and practice of ESD in two tertiary education institutions in one South nation, the Philippines. Hopefully, useful lessons and theoretical enrichment can emerge from this research project for promoting ESD in parallel South contexts.

The Philippine Environmental Context

Composed of 7,107 islands with a land area of 114, 672 square miles, the Philippine archipelago stretches almost 1,150 miles from just below the Tropic of Cancer toward the equator. It has three main island groups: Luzon, Visayas and Mindanao with Luzon covering an area of 40, 541 square miles and Mindanao with 36,680 square miles. The Visayan group is made up of several islands like Cebu, Leyte, Bohol, among others. The islands are scattered within 639, 112 square miles of marine water (Steinberg, 1994). Bounded by the China Sea, the Philippine Sea and the Pacific Ocean, the Philippines is situated strategically as a regional trading centre and a cultural rendezvous of East and West. Its neighbors include Taiwan, Vietnam, Indonesia and Malaysia (De Guzman and Reforma, 1988; Harper and Peplow, 1991).

A multicultural society, the Philippines is inhabited by Malay peoples with significant Chinese and Caucasian minorities and indigenous tribes. It is predominantly Christian with more than 80 percent being Roman Catholic. However, there is a distinct Muslim community as well as ethnic tribes adhering to indigenous beliefs (Anti-Slavery Society, 1983). There are 88 languages with Filipino as the national language. Other major languages include Tagalog, Cebuano, Ilocano, Bicolano, Waray among others (De Guzman & Reforma, 1988; Harper & Peplow, 1991).

The Philippines has a warm and tropical climate and two seasons, wet and dry. The monsoons mark the onset of these two seasons. In Manila, the rains come in June till November followed by a cool dry season from December to February and a hot dry season from March to May. This is the moonsonal pattern in most parts of the country except in Mindanao which usually has an even rainfall distribution throughout the year. The temperature seldom goes above 100 degrees Farenheit and the rainfall can exceed from 160 to 200 inches a year. The country is at risk from natural calamities such as frequent typhoons, earthquakes and volcanic eruptions. These disasters bring so much suffering and misery on the people as lives are lost, crops are destroyed and many are rendered homeless (Steinberg, 1994: Encyclopedia of World Geography, 1994).

Confronted by a deepening environmental crisis resulting from the plunder and pillage of its natural resources, the Philippine situation has been described thus: "The country's forests have been ravaged, its rivers polluted, its mangroves decimated, its coral reefs shattered, its topsoil eroded and half of the forest flora destroyed" (Umali as quoted in Lawless, 1992, p.7).

The country has a rich but fragile environment. Endowed with abundant natural resources, the Philippines is basically agricultural with 43 percent of the total land area devoted to agriculture. More than one third of the country's export earnings and almost one-third of the GNP are generated from agriculture. Three-fourths of the population depend upon it for livelihood and half the labor force, for employment (Soriano, Claudio

& Fansler, 1995). A 1988 satellite survey of croplands which include plantations, arable land and fishponds showed that 4.39 million hectares have been planted to cereals and sugar while 3.24 million hectares have been planted to crops mixed with coconuts. Coconut and other plantations, crops and fishponds make an estimated total cropland area of almost 10 million hectares (Kalaw, Jordan & Torres, 1991). The land however, is unequally distributed with large tracts under the control of national elites and giant agribusiness corporations. In spite of a comprehensive agrarian reform program, influential landed elites continue to lord it over poor peasant beneficiaries of land reform as exemplified by land conflicts involving its implementation (Laminero, 1996). By the end of 1993, the government claimed that it had distributed only 2.6 million hectares which is about 24 percent of the 10.3 million hectares under the Comprehensive Agrarian Reform Program, 6.4 million hectares short of the target (Hipolito,1995).

The land is adversely affected by pollution which comes from three sources: solid wastes resulting from domestic, commercial and industrial activities, pollution from agricultural fertilizers and insecticides and pollution from mining operations. It is also vulnerable to soil erosion. Twenty-one provinces have been identified to have half of their areas eroded. About nine million hectares of alienable land have been likewise, eroded. Approximately, one million hectares of agricultural land have been found to be susceptible to severe soil erosion during the rainy season (DENR, 1989).

The country's forests have been on the decline for several years. Although there is no complete and consistent forest records, it has been estimated that there has been a 50 percent decrease in forest cover from 25 million hectares in 1900 to 12 million hectares since 1950. More than an additional 6 million hectares of forest cover have been lost since then. Presently, only 5 million hectares of forests remain (Wallace, 1993). The estimated rate of depletion of tropical forests from 1969 to 1988 is about 210,000 hectares per year or about two hectares every five minutes (Soriano, Claudio & Fansler, 1995; Kalaw, Jordan & Torres, 1991). In 1990, only 20 percent of the land area or 6.46

million hectares have forest cover. Deforestation has been attributed to several causes such as illegal logging, surface and strip mining, kaingin, forest fires, pests, and the activities of ranchers, industrial tree planters and commercial agriculturists (Sajise, 1993; Soriano, Claudio & Fansler, 1995).

The contribution of the forestry sector to the Philippine economy is only about 1.1 percent of the GNP. Since the 1970s, the export of logs has declined and by August 21, 1986, a total log export ban has been enforced (Soriano, Claudio & Fansler, 1995). Log bans or moratoriums are in effect in 60 of the 75 provinces to conserve the remaining forest resources. Moreover, the Timber Licensing Agreement system (TLA) may soon give way to other forestry management approaches like the Community Forest Management Agreement program. This is due to the demand to change the TLA system for managing the country's remaining forests by academicians and concerned professionals (Wallace, 1993). Massive logging activities and corrupt practices in the provinces of Cagayan (De la Paz, 1990), Samar (Yabes, 1990), Isabela (Batario, 1990) and Bukidnon (Hofer, 1990) have greatly affected the communities in these areas and have driven the people to protest against the TLA holders. The loss of forests has resulted in floods and landslides, massive soil erosion and siltation as well as the loss of biodiversity with 18 forest species found to be endangered (Alianza, 1990; Kalaw, Jordan & Torres, 1991; Sajise, 1993; Soriano, Claudio & Fansler, 1995). Droughts in Luzon and the Visayas have also been caused by forest denudation. Likewise, food production is affected by forest denudation and is aggravated by monocropping and the wide use of fertilizers and insecticides. Compounding the situation is the threat to the cultural survival of people displaced from their ancestral lands often to give way to "development" projects (Anti-Slavery Society, 1983; Arquiza, 1990; Stiles,1991; Alianza, 1991; Soriano, Claudio & Fansler, 1995).

The Philippine marine territory is 211.6 million hectares. It has a total coastline of 18,417 kilometers and a coastal water area of 26 million hectares. Five hundred coral species which contribute to 25 percent of fish production occupy 30 percent of shallow coastal waters. The use of destructive fishing methods like the use of dynamite and cyanide has greatly affected coastal and deep sea resources One third of the coral reefs, according to the University of the Philippines Marine Science Centre report in 1981, had less than 25 percent intact coral cover while only 6 percent were considered to be in excellent condition with 75 percent cover (Alianza, 1990; Kalaw, Jordan and Torres, 1991; Mincher, 1991). The destruction of coral reefs has been caused by siltation, oil pollution, contaminants like organic wastes, trace metals and mine tailings and destructive fishing practices such as blast, cyanide and muro-ami fishing (Arquiza, 1990; Hunt, 1996; DENR, 1989). Cyanide is a toxic chemical used in the live capture of expensive fish for restaurants and the tropical aquarium industry (Arquiza, 1990). Muro-ami is a method of fishing where divers drive the fish towards a net spread among coral reefs by pounding a bamboo pole with a stone attached at one end. It is a destructive method of fishing because the nets used catch both big and small fish and the method used to drive the fish towards the nets destroys the coral reefs. Likewise, reports indicate that young divers who are usually hired are paid very low wages and work under inhuman conditions (Kinaiyahan Bulletin, 1991).

Recent survey showed that the total area of mangrove growth has decreased substantially from the 1920s. (DENR, 1989; Alianza, 1991; Kalaw, Jordan & Torres, 1991; Mincher, 1991). From a total area of 500,000 hectares of mangrove growth, only 56,000 hectares remain (Kalaw, Jordan & Torres, 1991). This has been primarily due to the construction of commercial fishponds (Mincher, 1991; Soriano, Claudio & Fansler, 1995). Subsistence fisherfolk are most affected by the destruction of coral reefs and mangroves due to the loss of natural production.

Population pressures and the drive towards industrialization have led to the indiscriminate exploitation of coastal resources. Mine tailings from mining companies as well as ship and oil spills have polluted coastal areas and this is aggravated by human encroachment into these places and the uncontrolled establishment of beach resorts. Dynamite fishing and siltation have also contributed to the degradation of the country's coastal resources (DENR, 1989; Soriano, Claudio & Fansler, 1995).

The country has 59 lakes, 384 major river systems and 100,000 hectares of freshwater swamps. The rivers in Metro Manila are biologically dead while many in the provinces are severely polluted. Due to domestic, commercial and industrial activities, the freshwater ecosystem has been severely degraded (DENR, 1989). Mining operations have caused the pollution of river systems, too. The formerly Canadian-owned Marcopper Mining Corporation had allegedly caused the severe pollution of two river systems in Marinduque province (Alibutod, 1990; Philippine Daily Inquirer, August 15, 1996; October 18, 1996). Major cities like Manila and Cebu have been found to be affected by the intrusion of salt water into their ground water supply. Likewise, siltation and agricultural run-offs due to the use of chemical fertilizers and pesticides have adversely affected the country's freshwater ecosystem (DENR, 1989).

The Philippines has a wealth of mineral resources with abundant deposits of chromite and nickel as well as gold, copper, coal and petroleum. At the rate of extraction in the past and in the present time, it had been estimated that the country's mineral reserves may soon be depleted in the middle of the century. While minerals have contributed to the country's economic growth, mine tailings from mining companies and processing plants have polluted rivers thus, reducing the catch of fisherfolk, and posing dangers to people's health (Kalaw, Jordan & Torres, 1991).

The Philippines is the ninth most populous country in Asia and the 14th in the world. Although the rate of population growth has dropped from 3.3 percent to 2.4 percent over the past 30 years, if the trend continues, the population could reach 128 million by 2025 (PCSD, 1996). The census figures as of May 1990 brought the Philippine population to 60.7 million (Soriano, Claudio & Fansler, 1995). Forty percent are under 15 years of age as of 1990 and its dependency ratio is 75/100 which puts a strain on limited family and national resources. The continued flow of migration from the rural areas to the cities for the last 25 years has brought significant changes in the demographic situation in the cities and rural communities. As well, the movement of Filipinos to other countries in their quest for employment opportunities has also affected the integrity of family and community life (PCSD, 1996). In terms of employment the National Statistics Office reported that the unemployment rate as of January 1999 was nine percent. This is an increase from 2.6 million in 1998 to 2.8 million in 1999 (Dancel, 1999).

The concentration of population in the urban centers poses problems in the cities due to the limited land space. It is projected that by 2020, those residing in the urban areas will increase by 40 percent (DENR, 1989). Urban dwellers constitute 43 percent of the population with many living in extreme poverty (Concepcion as cited in Soriano, Claudio & Fansler, 1995). Metro Manila alone received a total of 378,878 rural migrants from 1975-1980. Seven million of the total population are congested in 636 square kilometers of land in Metro Manila. With a 3.6 percent rate of annual population growth, Manila is extremely crowded and is confronted with many environmental problems such as the disposal of garbage and air pollution from transport vehicles and industry (DENR, 1989).

Upland population which totals 18 million make up 30 percent of the total population with 7 million occupying forest lands. By the year 2000, upland population could go up to 26 million which means 175 people would be living in every square kilometer of forest lands. The population increase in the uplands is putting a severe strain on land and forest resources (Philippine Times Journal, July 8, 1992). A significant proportion of upland Filipinos are the indigenous peoples whose ancestral lands and hence, cultural survival has been severely affected by the environmental degradation of forests and uplands, as well as by modernization projects such as dams, geothermal wells and mining (Anti-Slavery Society, 1983; Arquiza, 1990; Stiles, 1991; Alianza, 1991; Soriano, Claudio & Fansler, 1995).

Statistics show that in 1980, three Filipinos were born while one person died every minute. This was the same ratio in 1990 with 1,631,069 live births as against 313,890 deaths (Garcia, 1995). The regions in Mindanao have the highest child mortality rates in the country as of 1998. The Autonomous Region of Muslim Mindanao registered the highest with 98 deaths for every 1,000 children under 5 (Canuday, 1999). In the 1980s, the average family size was 4.5 children, a decrease from seven in the 1970s. The life expectancy was 61.6 years in 1980. It rose to 63 years in 1988 and 62.8 to 64.6 years for males and 66.4 years for females in 1990 (Garcia, 1995).

The current Philippine environmental scenario could be described as while the country's population is rapidly growing, its natural resources are fast disappearing. It is likewise, very ironic that the country, blessed with abundant and rich natural resources, is heavily indebted and has lagged economically behind its Asian neighbors (Steinberg, 1994). With the foreign debt putting a drain on the country's meager resources, the unrelenting tide of poverty continues to pose a threat on the sustainability of its natural resources. The host of environmental disasters such as floods, droughts, typhoons and others plaguing the country year after year, causing so much tragedy, untold misery and suffering among the masses, points to the need to truly reflect on and examine the direction of the country's development agenda and environmental management efforts.

Viewed from a development standpoint, the Philippine economic situation has been a "carry-over" from the years of colonization and foreign domination. Inspite of political independence, the country has not completely shed off its colonial links with the United States. Over the periods of "liberal democratic" rule, the repressive years of the Marcos dictatorship to the administrations of Aquino, Ramos and Estrada, the nation has remained heavily indebted and strongly dependent on North economic structures and modernization strategies including the Green Revolution, TNC-controlled agribusiness and industry and export-oriented growth. Thus, at the turn of the century, the Philippines stands at the crossroads of a development dilemma. There is the strong desire for economic growth believed to be the antidote to poverty but at the same time, there is an urgent and pressing need to protect the environment. While expressing concerns for environmental care, government leaders have continued to pursue a modernization paradigm of development based on rapid economic growth, industrialization, foreign investments and advanced technologies to reduce poverty. On the other hand, this modernization paradigm has been challenged by the marginalized sectors who are most affected by environmental degradation caused by modernization activities. Indigenous peoples, displaced from their ancestral lands as a result of modernization strategies adopted by the government have protested against this serious assault of their sacred grounds (Anti-Slavery Society, 1983; Arquiza, 1990; Alianza, 1991). These groups have pointed out that the environmental situation has been due to the country's heavy reliance on western economic formulas which only serve the interests of TNCs and the local elite at the expense of the poor. The Catholic Bishops of the Philippines (CBCP, 1988) likewise, issued an inspiring pastoral letter called "What Is Happening to Our Beautiful Land?" in which green theological principles and ideas of stewardship and ecological responsibility are applied to question the unsustainability of the dominant growth-first paradigm of development.

In spite of these protests however, the then Ramos leadership, greatly inspired by the success of the Asian NICs (Newly Industrializing Countries), envisioned embarking on a program of rapid industrialization by the year 2000. Having been officially incorporated into the Medium Term Philippine Development Plan, the program, popularly known as Philippines 2000 seeks to increase per capita income to at least $1000 and the growth rate to 10 percent and to reduce the incidence of poverty from 50 percent to 30 percent (NEDA, 1992; Ramos, 1993; 1995; Llorito, 1994; Salgado, 1995). To accelerate its implementation, a fast-track strategy was initiated through the establishment of regional industrial centers or growth corridors (Daing, 1994). The soundness of this economic strategy has been proudly acclaimed by national officialdom with the "successful" hosting of the 1996 APEC (Asia-Pacific Economic Cooperation) summit. To allay the fears expressed by environmentalists that such development strategy would only cause the degradation of the environment, Ramos quickly declared that the Philippines will be a "green tiger" (Mindanao Cross, Oct. 5, 1996). Early on in his administration, he had vowed that "while we still can, we must seek growth that does not exploit our country's natural wealth. Thus, we strongly uphold our commitment to the Rio Declaration and Agenda 21-the global blueprint for sustainable development" (Ramos, 1993, p.190). With the creation of the Philippine Council for Sustainable Development following the Earth Summit in Rio de Janeiro, Philippine Agenda 21 (PA 21) was formulated by virtue of Memorandum Order No.288. The document adopts "a framework that places people and nature at the center of development initiatives" (PCSD, 1996, p.v). With the coming in of the Estrada administration, making Philippine Agenda 21 "a living document" (Habito, 1996, p.v) remains a great challenge to the political leadership and all stakeholders in the development process. Thus, although sustainable development has become a byword in official discourse, what it means in theory and practice raises vital questions for the well-being of the Filipino people and their environment.

Environmental Education in the Philippines

In the field of education, concern over environmental degradation has been expressed through efforts to foster environmental literacy in schools and nonformal settings (e.g. media, community education). In the past decade, environmental education activities have been undertaken mainly by the formal education sector. In 1984, through the Department of Education, Culture and Sports (DECS), soil conservation concepts were integrated into the school curriculum in all levels. Ecological issues were also incorporated in natural and social science subjects at different curricular levels. Likewise, in the University of the Philippines in Los Banos (UPLB), courses in ecology and environmental studies were offered. As of 1988, there were about 12 interdisciplinary undergraduate degree programs related to the environment offered by colleges and universities but these were concentrated only in the National Capital Region and the Southern Tagalog area (Hart, 1991). Presently, many schools as well as major environmental groups are offering environmental courses, workshops and seminars to their constituents. Academic institutions outside of Metro Manila are now offering specialized undergraduate and graduate degree courses in the field (DENR-DECS, March 1992; Soriano, Claudio & Fansler, 1995). In June 1988, some 20 educational institutions and NGOs (nongovernmental organizations) formed the Environmental Education Network of the Philippines (EENP) designed to address problems spawned by population growth, poverty and decades of environmental misuse. The EENP hopes to coordinate research projects and initiatives among environmental and educational institutions in the country and to link these initiatives with regional and global environmental programs (Hart, 1991; DENR-DECS, March 1992).

In 1989, the Environmental Management Bureau (EMB) with assistance from the United Nations Development Program (UNDP), the Department of Education, Culture & Sports (DECS), academic institutions and NGOs initiated the development of an Environmental Education Strategy (Hart, 1991; DENR-DECS, March 1992; Soriano, Claudio & Fansler, 1995). This strategy aimed "to develop an environmentally literate and responsible citizenry that can ensure the protection and improvement of the Philippine environment and promote sustainability, social equity and economic efficiency in the use of the country's natural resources" (DENR-DECS, March 1992, p.2).

The establishment of the PCSD (Philippine Council for Sustainable Development) led to the preparation of Philippine Agenda 21 which presents guidelines and mechanisms to operationalize sustainable development principles as embodied in the Rio declaration.

This document which recognizes the significant role of major groups and key actors in society in the pursuit of a sustainable development agenda, contains a "People's Covenant towards a Transition to Sustainable Development" which believes "that people must be at the core of development initiatives," and upholds "self-determination and national sovereignty that rely on the inherent capacity of the people to participate in decision-making processes....," (PCSD, 1996, pp. vi-vii).

The role of education in the transition towards sustainable development is a crucial one. Then President Ramos himself called for the need to "educate our countrymen into doing their share to protect and preserve the environment" (Ramos, 1993, p.216). Likewise, Philippine Agenda 21 (PCSD, 1996) recognizes the significance of education for sustainable development in enhancing economic, political, ecological and cultural literacy and competence and in promoting the emotional, mental, moral and spiritual potential of the human being.

It can be noted that there had been quite a few small but significant steps that have been undertaken by the government sector as well as nongovernmental organizations (NGOs) and people's organizations (POs) towards the pursuit of sustainable development in terms of policies, programs and projects. However, given the state of deterioration of the Philippine environment and the choice of development strategies that the national government has adopted and has been trying to pursue, effecting the transition towards sustainable development remains a real challenge. Hence, whether or not such official policies and practices authentically address the problems created by the modernization paradigm upheld by political and economic elites constitutes a vital area of investigation. As critical analysts and educators have argued, environmental degradation and sustainable development cannot be understood divorced from the substantive problem of social justice and the political exclusion of the poor and marginalized groups (Toh & Floresca-Cawagas, 1987; 1990; Soriano, Claudio & Fansler, 1995). In rising to meet the challenge of the transition towards sustainability, there is a pressing need to look into the role of education in catalyzing action towards sustainable development. In this regard, it must be also recognized that although environmental education has gained legitimacy in the schools, there is a need to reconceptualize it in terms of education for sustainable development to make it more relevant to the present context. Hence, as the term, "sustainable development" gains a stronghold in official discourse, the theory and practice of education for sustainable development in Philippine educational institutions, likewise, constitutes a most appropriate theme of research and investigation.

Issues of Personal Interest

A valuing of the environment emerged naturally in my youth when trees still abounded to offer the pleasures of play and adventure. To be able to climb the trees and pick their fruits or count the eggs in a bird's nest did not only evoke a feeling of triumph but also brought that sense of affinity to my surroundings and an awareness of our co-existence. It is this feeling of oneness with the environment that makes one understand why some community elders would relate the ages and significant events in the lives of their sons and daughters to the trees around them. "That mango tree bore its first fruits when my youngest daughter was born" or "This acacia tree had stood here since I started to go to school," are typical conversation pieces stated so matter-of-factly yet they reflected the prevailing connections people had with their environment in those days some decades back.

Perhaps it was the absence of electronic toys or video games enjoyed by children of today which brought my generation closer to the environment. The search for things to play with drove us to depend on the diversity of the environment to meet this need. Hence, the pliant bamboo, the soft grain of the *lanute,* (a tree with a soft, white bark hence, a popular choice for wood carvers), the seeds of the *palomaria* (a big sturdy tree with round seeds from which oil for lamps could be extracted) or just the banana stalks provided the medium for ingenuity and creativity to design our own toys with what our environment had to offer

As there was this lush vegetation all around, the mountains, then, still had their thick forest cover. There were still many different kinds of birds and insects that would come out after the rain. The singing of the cicadas, the chirping of the crickets and the tongue-clacking noise of the house lizards were sounds that escaped my notice in my childhood years but, as I grew up, they began to unfold special meanings for me. They heralded the onset of twilight, that transition from day to night, which began to fascinate me. In those brief moments of solemnity and serenity, I began to wonder at the grand and awesome design of the universe. I gradually became aware of the interconnectedness of all things: the birds and the trees, the fish and the rivers, the clouds and the rain, the flowers and the bees. In my young mind then, this was a revelation. Such an intricate network yet it vibrated with harmony and unity. This knowledge drew me closer to nature and made me realize that the links that bound humanity with the environment brought wholeness to life and made it more vibrant with meaning.

The deepening of my understanding of our interrelationship with nature gave birth to a genuine concern for the environment. It also kindled my interest in exploring themes about the earth and the things that surround us. Although in my student days, some aspects of the environment were included in most of our science courses, these were presented in such a detached manner that they did not seem to have any connection to the natural disasters that we were beginning to experience. The academic encounter seemed to be alienated from our contextual realities. Year after year, natural calamities like floods and typhoons would hit the islands causing so much damage to life and property. However, these disasters were not linked to our Science lessons. Some of what we learned from our books could not find their way into our practical lives.

Years later, after finishing my studies and a few years of teaching in Manila, I went back to my home province and while teaching Elementary Science, I soon noted with lament that it became difficult to bring the class on a nature trip and expect to see the insects that used to swarm the place. We could hardly find them for observational study and only a few birds could be seen on trees. The scenario became very different from what it used to be as wooded areas have given way to commercial establishments. The environmental conditions in the province and in the big city differed somewhat but their deteriorating state was one commonality they shared.

In the '70s, nascent environmental concerns found their way into government programs. One government thrust initiated during the Marcos regime which was designed to partly address the environmental issue was the tree planting program in all government agencies conveniently dubbed as "Alay Tanim" (Plant Offering). Schools participated in this project and nurseries and herbaries were constructed in schoolyards. Environmental education was fast becoming a buzzword in school circles and its integration into the curriculum was being initiated. Seminars and workshops were conducted to help teachers in the implementation of the integration of environmental education. However, the initial enthusiasm soon waned. In some schools, the tree planting project, the nurseries and herbaries were not maintained. It seemed that they were only constructed for the sake of compliance and for purposes of reporting. Some of the seedlings that were planted in areas such as along highways did not survive because they were not given the care that plants need in order to grow. With these observations, I wondered whether the rationale behind the project had been fully grasped and understood by all those who were involved in its implementation. Like some of my colleagues, I felt some degree of skepticism about the positive impact of this educational endeavor on the students and community. It could also be noted that the content of environmental education then, did not encompass social and development issues.

Since my relocation in Canada, I have been very encouraged by the news that in the past decade, many nongovernmental organizations have been working and implementing projects in the Philippines that help bring about improvement in people's lives. They have been making very significant contributions to the preservation and protection of the environment by keeping a vigilant eye on development projects that could pose some threat or danger to human lives and the environment. More importantly, they have helped in developing an awareness of environmental issues among people in communities and in empowering them to assert their rights as demonstrated by the "Fast for the Forests" action of Bukidnon farmers against logging (Hofer, 1990), the rallies against the construction of the Mt. Apo Geothermal Plant project which displaced the indigenous peoples living in the area (Arquiza, 1990; Lawless, 1992), or protests against the construction of a cement plant in Bolinao, Pangasinan that was seen as posing a threat to people's health (Cardinoza, 1996).

My interest in environmental and development issues has been heightened with my course in Global Education. The enmeshing of environmental concerns with peace education, human rights education and development education (Toh & Floresca-Cawagas, 1987; 1989) brought forth new dimensions to my understanding of environmental issues. As I gained more knowledge from my readings and reflections of global education and sustainable development literature, I was more than convinced that the struggle for planetary survival needs to be waged and there is no reason to put it off because tomorrow might be too late. As a former teacher in the Philippines, I am of the firm belief that education is still the most potent instrument to attain the goals of sustainability. Addressing the environmental problems and development concerns in the Philippines necessitates a strong commitment to work towards a radical transformation in people's perspectives, lifestyles and values. It is this strong commitment that motivated me to focus my research on education for sustainable development in the Philippines with the hope that the present state of the environment could be reversed so that future generations would still be able to enjoy the many things it can offer.

Questions of Identity

The discourse on sustainable development relates to issues and questions of identity. The emergence of postmodern theorizing on a broad spectrum of human and social phenomena provides insights which can be helpful to understanding concepts and issues of sustainable development.

The question of identity and the difficulty or complexity of coming up with a definition of what the Philippines is, is aptly articulated by Ruiz (1994):

> ...Just what do we mean by "Philippines" indeed, of "Philippines in the year 2000?" No sensible person, indeed I hope no respectable scholar, today will assert that the Philippines is a singular, let alone unitary, socialized reality. To be sure, there are common threads that form part of the tapestry that is the Philippines, for example, our common experience of colonialism and neocolonialism or of domination and poverty. Yet there are as many "Philippines" today as there are individuals or persons in this school. It is a truism that borders on the banal that the Philippines is a pastiche of political, economic, cultural, religious and historical specificities and pluralities. (p.1)

In the Philippines, sustainable development issues and concerns are articulated in a variety of voices - the *Lumad* or indigenous peoples whose ancestral lands had been appropriated by "development," villagers who are affected by gas emissions or pollutants from nearby factories or industrial complexes or the government technocrat who wishes to demonstrate the marvels of technology to solve environmental problems. While these voices share a commonality or points of similarity, there are critical points of difference which reveal what they are or what they have become.

Such differences could be traced to people's histories which bring about these transformations. For instance, in the Philippines, there are many indigenous tribes whose relationship to their environment have shaped their culture and their traditions. Indigenous peoples have their own culture and spirituality that speak of their close relationship with their environment. However, their cultures have also undergone transformations and changes within their own contexts. Because of the destruction of the environment as a result of unsustainable policies often instituted in the name of "development," indigenous peoples lose a part of themselves, their culture and their traditions. As Maurice Strong, (1990) Secretary General of the Earth Summit in Rio pointed out:

> In the last decade, indigenous peoples have suffered from the consequences of some of the most destructive aspects of our development. They have been separated from their traditional lands, and ways of life, deprived of their means of livelihood, and forced to fit into societies in which they feel like aliens. They have protested and resisted. Their call is for control over their own lives, the space to live and the freedom to live in their own ways. And it is a call not merely to save their own territories, but the Earth itself. (p.6)

Stuart Hall (1990) contends that cultural identities are not fixed as some "essentialized past"; they are "subject to the continuous play of history, culture and power" (p.225). Cultural identity as seen in this view, is not a reflection of common historical experiences and shared cultural codes that provide an unchanging and continuous frame of reference and meaning amidst changes in history which creates a "oneness" underlying all differences. Throughout the Philippines' colonial and post colonial history, it is this concept of "oneness" highlighting similarity and continuity which became the dominant way of viewing the Filipno identity. However, subjected to the dominant regimes of representation, this Filipino identity was constructed as different and "other."

By viewing identity not as a totality but as one undergoing constant transformations and as 'constituted within representation which enables us to see and recognize the different parts and histories of ourselves" (Hall, 1990, p. 237), not as a "given" but as "a process of political articulation and political negotiation across a whole range of contradictory social sites" (Bhabha, 1990, p.220), we begin to recognize and live with those differences. It also helps us understand the ways in which cultural practices construct their own systems of meaning and social organization. This non-totalizing view of identity was helpful in clarifying the understandings of sustainable development on the part of the Filipino tertiary educators who were the central participants in this study.

What they articulated were reflections of their own histories and the transformations that constituted their being and becoming.

The Research Question

The term "sustainable development" is of fairly recent currency and although there is a great deal of literature on the subject, research on this area had been mainly focused on its ecological dimension. In the Philippines, environmental education has gained legitimacy in schools and nonformal contexts. To date, most environmental education that can be found in schools has been in the elementary and secondary levels. At the tertiary level, environmental education is taken up in such courses as environmental science/management and ecology. Today several institutions are offering undergraduate and graduate degree programs in the field (Hart, 1991; DENR-DECS, March 1992; Soriano, Claudio & Fansler, 1995).

In the field of research, a variety of environmental research activities were undertaken by several institutions but these were largely uncoordinated. These research studies covered several areas ranging from pollution to natural resource degradation control and rehabilitation but these have been unmonitored. In 1988, the Ecosystems and Research Development Bureau attempted to make an inventory of all environmental research and development programs of the Department of Environment and Natural Resources and came up with the "Integrated Research and Development Plans and Programs of the DENR, 1989-1993." It is sad to note however, that government resources in this field have remained very minimal (Hart, 1991). In 1990, through a grant from the Asian Development Bank, the Environmental Management Bureau (EMB) of the DENR and the Educational Development Projects Implementing Task Force (EDPITAF) of the DECS (Department of Education, Culture and Sports) conducted a state-of-the-art review of Environmental Education in the Philippines. With regard to tertiary education, the survey yielded very significant findings. It concluded that there were many constraints plaguing tertiary education institutions in the teaching of Environmental Education (EE). These include the lack of highly qualified faculty and the lack of facilities and equipment including library resources. Although the faculties of the University of the Philippines are highly qualified to teach EE courses, it is not so in the provincial universities. There is also a lack of integration of EE topics in the General education courses. In terms of research, although the Department of Science and Technology (DOST) provides regular research grants to universities in priority areas in science and technology, these are inadequate considering the number and kinds of research institutions would like to pursue (DENR-DECS, March 1992).

Due to the lack of in-depth research on EE that could lead to education for sustainable development (ESD), I have chosen to do the study on this area to look into the theory and practice of ESD. This task could be more meaningfully fulfilled by no other than the tertiary level teacher who could touch the lives of students who will soon occupy their own spaces in the workplace. What sustainable development and education for sustainable development mean to teachers are reflections of their lived experiences in the life-world of teaching and the wider contexts of their social realities. It must be noted that as contained in the DENR-DECS study (March 1992), EE as taught in the '70s focused on environmental concepts and principles but these were taught in isolation from social, political and economic issues. The term ESD was not yet used as a discipline title at the time of data collection as EE was still used. However, as sustainable development (SD) is gaining currency in educational circles, social, political and economic issues are also being intertwined with the environmental aspects in Environmental Education.

The study sought to explore tertiary teachers' understandings of the theory and practice of ESD in two Philippine educational institutions in the Mindanao region in Southern Philippines. These two educational institutions are St. Mary's University (SMU), a Catholic institution under the private educational system and South Plains State

College (SPSC), which is part of the public state university system. More specifically, the study sought to answer the following research questions:

1.What meanings do teachers have of the concept of sustainable development (SD)? education for sustainable development (ESD)?

2. What ESD policies/ programs/ initiatives exist in each of the selected Philippine educational institutions? How do these policies/programs/initiatives relate to national ESD policies/programs/initiatives?

3. What ESD goals are reflected in the vision-mission of each of the selected educational institutions?

4. What are the experiences, constraints and concerns of teachers in their implementation of ESD?

5. What themes constitute the scope and content of ESD in the two instiutions? How are these themes organized?

6. What pedagogical strategies are employed in the teaching of ESD in each of the selected institutions?

7. What research studies/ projects on ESD have been/are being conducted in each of the selected institutions?

8. What ESD projects are being carried out through the outreach programs of the institutions? What ESD activities/ projects have been initiated by each of the institutions in collaboration with NGOs, the media and the church?

9. How may teachers be empowered to effectively and creatively implement ESD in the contextual realities of their organizational, professional and societal expectations or aspirations?

10. What possibilities toward an education for sustainable development have emerged from the study for Philippine tertiary institutions and for national and international development organizations in both North and South contexts?

Significance of the Research

The primary objective of the research study was to explore tertiary teachers' understandings of the theory and practice of ESD in two tertiary educational institutions in the Philippines. The role of tertiary education institutions in the teaching of ESD is very crucial as they turn out graduates who often fill strategic roles in various fields of national, regional and local development. If these institutions do not help future economic, political, social and cultural leaders and professionals to think and act critically about sustainable development issues, then the goal of ecological security becomes even more difficult to attain. Furthermore, since the study has been focused on ESD, it addressed an issue which is most relevant to the Philippine context considering the state of the country's environment and natural resources. The valuable information generated from the findings in the study will contribute to the pool of knowledge on ESD not only in the Philippines but in other South countries as well. The findings could also provide insights as to the implementation of ESD in other levels of education in the Philippines not only in the Mindanao region but also in other areas like Northern Luzon or Metro Manila. Likewise, these have implications to government agencies like the DECS, CHED (Commission on Higher Education) and the Environmental Education and Information Division (EEID) of the DENR in the formulation of educational policies and directives. Furthermore, the results could be useful to the DENR in developing strategies for conserving and taking care of natural resources and to NGOs or other organizations in planning or carrying out development projects.

The outcomes are of particular significance to the two institutions in the study in the formulation of ESD policies, in the improvement of curriculum and pedagogy and in planning projects that promote ESD not only in the institutions but in the wider community as well. More importantly, the findings could serve as background knowledge for teachers in their teaching of ESD as they discover empowerment in addressing issues of ecological security, economic development and social justice. Finally, the study could provide valuable insights for international development agencies and institutions in the improvement and implementation of their ESD programs especially for South countries.

Organization of the Study

The thesis is organized into seven major chapters. Chapter One presents the background of the study which brings in the global and national ecological contexts. The question unfolds in my personal narrative of an awakening to pursue a topic that relates to the environment. A clarification of the issues of identity which bear significance to the research framework is also included. This is followed by the main objective of the study or a definition of the research question which is broken down into specific questions. The last section deals with the significance of the research and the organization of the thesis.

Chapter Two presents the conceptual framework. It has four sections. The first and second sections deal with the concept, dimensions and issues of SD in the global and national or Philippine contexts respectively. The third section focuses on the theory and practice of ESD in the global setting while the fourth draws from the Philippine situation.

Chapter Three describes the research methodology. It consists of 2 major parts. The first part explains the use of qualitative research in education. It specifically focuses on hermeneutics as a mode of inquiry. It is followed by a description of the use of conversations as a research strategy or method of data collection, the research site, the process of selecting the research participants and of gathering data. The second part presents the other strategies used in collecting data such as interviews, participant observation and document analysis. It also explains the process of data validation as well as the ethical considerations that guided the conduct of the research.

Chapter Four is the first part of the presentation of data focusing on the teachers' concept of SD. It opens with an introduction to the chapter followed by a brief description of the personal and professional background of each of my co-participants and a thematic presentation of their understandings of SD which had been interpreted hermeneutically. The last segment constitutes my reflections on the teachers' concept of sustainable development.

Chapter Five, which is the second part of the presentation of data deals with the teachers' understandings of ESD. As in the previous chapter, it starts with an introduction to the chapter followed by a thematic presentation of the participants' meanings of ESD. My reflections on the teachers' understandings of the concept of ESD constitute the last segment.

Chapter Six deals with the implementation of ESD in the two participating educational institutions. It presents an analysis of each institution's ESD policies, goals, programs, initiatives, activities and community outreach projects. It also includes a description of how ESD is taught in a few classes based on observations made.

Chapter Seven revisits the research question and presents what education for sustainable development means for my co-participants. The discussion also includes the contradictions and dilemmas revealed in the conversations and some institutional possibilities toward an education for sustainable development. My reflections on this research journey also present my insights towards a better understanding of myself as an ESD educator.

CHAPTER TWO

CONCEPTUAL FRAMEWORK

Introduction

This chapter presents a review of the literature on sustainable development and education for sustainable development in both global and Philippine contexts. It traces the origin and the historical development of the concept highlighting the global events that have taken place and the dilemmas and problems that have helped frame the question of sustainable development and education for sustainable development. It has four sections: 1) the concept of sustainable development in the global context; 2) sustainable development in the Philippine context; 3) education for sustainable development in the global setting; and, 4) education for sustainable development in the Philippines.

The Concept of Sustainable Development

The concept of sustainable development is not new. Literature on the subject suggests that it may have served as a challenge to early societies like the ancient Sumerian, Mayan and Mediterranean civilizations (Ponting as cited by Samson, 1995). The term however, is of recent coinage. Its origins can be traced to the pre-Stockholm negotiations in which the Third World coalition sought to have their concerns reflected in the 1972 United Nations Conference on the Human Environment (UNCHE) agenda (Williams, 1993; Reed, 1996). The goal was to articulate an approach to the environment which is consonant with the pursuit of development. Arguing that environmental problems are rooted in poverty and industrialization, the Founex Report demonstrated the link between development and the environment. The alliance established the term "sustainable development" and while the concept has been interpreted in a number of different ways, it is essentially, "a pattern of development which is not harmful to the environment" (Williams, 1993, p.18). With the publication of the “World Conservation Strategy” in

1980 by the International Union for Conservation of Nature and Natural Resources (IUCN)-The World Conservation Union, the United Nations Environment Programme (UNEP) and the World Wildlife Fund (WWF) (IUCN/UNEP/WWF), the term gained currency in international environment and development circles (Trzyna,1995). The concept came into common usage with the publication of the Brundtland Commission Report (WCED, 1987) which defined the term as development that "meets the needs of the present without compromising the ability of future generations to meet their needs" (p.43). Although the Commission's definition, has been universally accepted, it nonetheless, drew several criticisms from other development thinkers. Sustainable development has since been further popularized by the major international document, Agenda 21 (Quarrie, 1992) following the Earth Summit in Rio de Janeiro.

Sustainable development has been defined in a number of different ways and along different streams of thought. Although the views manifest significant points of convergence and divergence, the concept continues to generate varied interpretations. Rowlands (1992) illustrates this point thus: "In 1986, one report presented a gallery of definitions in which over twenty different interpretations of the term sustainable development was presented. Today, the degree of diversity is just as wide" (p.386). Mearns (1995) contends that like so many words in development discourse, the term draws its strength in its vagueness, in that, it means different things to different people. Similarly, McCready (1993) asserts that the beauty of the concept lies in its ambiguity that it can not be reduced to a definition while Winograd (1996) thinks that its vagueness makes it possible for people to incorporate values such as liberty, justice and equity into the debate. He also believes that the lack of a precise definition permits a consensus to be reached regarding issues involving the planet and natural resources. As well, it eliminates the dichotomy between economic growth and environmental protection.

Sustainable development as a term is laden with contradictions. Redclift (1993) traces the etymology of the word "sustainable" to the Latin *sus tenere* which means "to uphold." It has both positive and negative connotations as it could mean supporting a desired end or enduring an unpleasant condition. When used as a verb, it carries a quality of being active but as an adjective, it exhibits an element of passivity. Likewise, in exploring the contradictions, he uncovers them as inherent in western tradition with its linear model of growth and accumulation that puts the planet's life support systems in jeopardy. Development which has long been associated with economic growth needs a redefinition since it undermines the sustainability of the planet and its resources (Redclift, 1987). Others regard sustainable development as an oxymoron (Mele, 1995; Ophuls, 1996) because development as ordinarily understood is inherently not sustainable. When broken into its parts, the concept becomes more complicated. Sustainability relates to the "carrying capacity" of the earth without taking into account social issues while development is associated with economic growth without regard for the planet's "carrying capacity." However, joining the two words brings in a third which is different but is much more than the sum of its parts (Samson, 1995).

Although sustainable development is now incorporated in the policy making and research lexicon of local and international agencies, the concept is still misunderstood by many people. Trzyna (1995) claims that in attempting to respond to the issues of sustainable development, leaders and experts end up debating and arguing about its meaning often without coming to a consensus. Temple (as cited in Davis, 1996), complains that the word "sustainable" has become overused as it is found in sustainable agriculture, sustainable growth, sustainable societies, and many others such that it has come to mean too much and nothing at the same time. In a related light, Munro (1996) believes that like any phrase which has suddenly become fashionable, sustainable development has been misunderstood, misused and at its worst, abused by special interest groups. However, he insists that it is because people miss the point. Sustainable development is a valid and vital concept but its operational definition is not clear. He stresses that for development to be sustainable, there is a need for continuity or the maintenance of its benefits. He defines it as "the complex of activities that can be expected to improve the human condition in such a manner that the improvement can be maintained." (p.29).

Defining sustainable development operationally has posed a major challenge to some writers. Focusing on the WCED (1987) definition of sustainable development, Norgaard (1994) claims that it provides a criterion for what is sustainable development but there is no indication on how this could be achieved. He argues that because it does not define "needs" and does not stress that they be efficiently met, it leaves the impression that the present generation could live beyond its needs as long as future needs are met. In the same vein, Pezzey (1992) and Baldwin, (1995) pointed out that the term is inoperable because of the flexibility of the word "needs."

The World Commission on Environment and Development Report, "Our Common Future" (1987), is a major international document which puts the environmental agenda at the forefront of development issues. The Commission which was created by virtue of General Assembly resolution 38/161 adopted by the United Nations in 1983 sought to formulate a global agenda for change. Chaired by Gro Harlem Brundtland of Norway, the Commission functioned as an independent body and came up with an analysis and several insights into sustainable development issues. The report presents the possibility of change and the necessity for all countries, whether rich or poor to cooperate and work together in resolving environmental and development issues. More importantly, the document recognizes the interdependent relationship of poverty and environmental degradation. It states:

> Environmental stress has often been seen as the result of the growing demand on scarce resources and the pollution generated by the rising living standards of the relatively affluent. But poverty itself pollutes the environment - creating environmental stress in a different way. Those who are poor and hungry will often destroy their immediate environment in order to survive. They will cut down forests; their livestock will overgraze grasslands; they will overuse marginal land; and in growing numbers they will crowd into congested cities. The cumulative effect of these changes is so far-reaching as to make poverty itself a major global scourge. (p.28).

Aware of this poverty-environmental degradation relationship, the Commission sought to address the issue by stressing continued economic growth. This constitutes one of the points of contention in the sustainable development debate: the Commission's stand on economic growth and poverty. It clearly states that economic growth is imperative in the struggle against poverty and environmental decline. Fien and Trainer (1993) challenged this position with the argument that because of its reformist orientation, the report does not call for a radical transformation in the present system of production. It has totally neglected the need for fundamental reductions in the present levels of resource and energy use as advocated in the report on "Limits to Growth" by Meadows, Meadows, Randers and Behrens II (1972). They asserted that because of this, it has failed to recognize that the growth strategy has not alleviated the plight of the poor and has only enriched the wealthy few. Likewise, they pointed out that it does not delve into the elements of appropriate development which recognize the unsustainability of the present levels of industrialization and affluence of the North. The Brundtland paradigm has been viewed as manifesting several contradictions not only in its definition but also in its prescriptions for sustainable development.

As such, the Brundtland Report has been viewed with skepticism by some quarters. Graf (1992) considers it as "essentially yet another attempt in the genre of the Pearson and Brandt reports to reassert and rationalize Northern global ideological hegemony" (p. 553). By pointing to poverty as the cause of environmental degradation, the report has adopted a "blame the victim " stance because it has failed to address the real issues in terms of the conditions that created the problems of poverty in the first place.

Sustainable development has brought a more heated dimension to the development debate. Representatives from poor countries had always struggled for a more equitable share of the world's assets while those from the high consumption countries ignored the pressures. Drawing upon the experience of Taiwan and South Korea, Devlin and Yap (1994) argue that a middle ground can be reached which fulfills both environmental goals and development concerns. To make the sustainable development model viable, high consumption countries should demonstrate willingness to share global resouces and technologies while the leaders in low-consumption countries should be convinced that growth is possible without exploiting their resource base. However, they conclude that these are easier said than done because as demonstrated in Rio, government leaders, lending institutions and nongovernmental organizations failed to resolve the issues of environmental sustainability, economic growth, participatory politics and market-led economic policy. Thus, the international community has still a very long way to go along the path of sustainability.

At the other extreme of the poverty-environment spectrum is the position held by other writers. It presents the common theses that the current state of the environment is more of the cumulative effects of industrial development. Thus, it is contended that environmental degradation is a product of and by the North (Carley & Christie, 1993; Bhaskar & Glyn, 1995; Graf, 1992; De la Court, 1992).

As the largest gathering of government leaders, environmentalists and NGO representatives to date, the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992, was a significant leap towards the transition to a sustainable future. In his foreword to Agenda 21, (Quarrie, 1992) Maurice Strong, Secretary-General of the Summit, mentioned some of the major achievements of the conference. These include:

> ° Agenda 21- a comprehensive blueprint for the global actions to effect the transition to sustainable development;
> ° The Rio Declaration on Environment and Development - a series of principles defining the rights and responsibilities of States in this area;
> ° A set of principles to support the sustainable management of forests worldwide'
> ° Two legally binding conventions - aiming to prevent global climate change and the eradication of biologically diverse species that were signed by representatives of more than 150 countries. (p.9)

Agenda 21 (Quarrie, 1992), a product of the Summit, presents the preamble and program areas which comprise four sections: basis for action, objectives, activities and means of implementation. This document addresses current environmental and development problems and charts the path of action the countries could carry out in accordance with their different contexts, capacities and priorities.

Although Agenda 21 generated a greater impetus for countries to implement programs in the transition towards sustainability as evidenced by the formation of local councils on sustainable development, the expected output has been quite dismal. The World Bank (1997) assessed the situation thus:

> Overall, progress in the past five years clearly has not been what we had hoped. Investment in sustainable development has been inadequate as has been the cost-effectiveness of some of the investments. The loss of forests, wetlands and natural habitats has not slowed to the extent we had hoped; thirteen of the world's fifteen major fisheries are still in decline and targets under the Climate Change Convention for the year 2000 are unlikely to be met. More important, we have made inadequate progress in improving the quality of life of the three billion people who still live on less than $2 per day. Clean water and sanitation programs have expanded significantly but only enough to keep up with population growth. Less than one quarter of the world's population consumes three-quarters of the raw materials and produces 70 percent of all solid waste. (p.3)

Several writers have expressed their views about sustainable development. In many instances, it is the concept of "development" which is given varied interpretations. Goulet (1996) lists six dimensions of authentic development:

> (1) an economic component dealing with the creation of wealth and improved conditions of material life, equitably distributed;
> (2) a social ingredient measured as well-being in health, education, housing and employment;
> (3) a political dimension embracing such values as human rights, political freedom, legal enfranchisement of persons and some form of democracy;
> (4) a cultural element in recognition of the fact that cultures confer identity and self-worth to people;
> (5) ecological soundness; and,
> (6) a final dimension one may call the *full life paradigm* which refers to meaning systems, symbols, and beliefs concerning the ultimate meaning of life and history. (p.51)

He adds that authentic development which means "providing optimal life sustenance, esteem and freedom to all its members," is the only kind that is sustainable.

Gardner (1992) presents the view that the developing world should seek to achieve sustainable development and the developed countries must contribute towards this goal by concentrating on four priority areas: population, finance, law-making and institutions. Goodland and Daly (1992) likewise suggest three steps towards global environmental sustainability: 1) to use sound economics; 2) to differentiate between development and growth and 3) to use environmental assessment to determine the extent to which projects approach sustainability. Bartelmus (1995) echoes a related perspective when he wrote that sustainable development aims at integrating environmental concerns into mainstream socio-economic policies which should be accountable for their environmental impacts. The initial step towards such an integration is to seek an accounting of both environmental depletion and economic performance. Al Gore's (1991) prescription for sustainable development resembles a global Marshall Plan. He proposes the stabilization of the world's population, the development and international transfer of appropriate technologies, the reformation of "eco-nomics," a new generation of treaties and plans and a new global consensus. As well, the International Institute for Environment and Development (1992) asserts that to achieve sustainability, local people must be empowered to manage their own resources. It suggests that in order to achieve development, there must be an untying of debt, debt relief and fairer trade and that changes must be made individually, collectively and globally.

From a different angle, Woodhouse (1992) brings into light other interpretations of sustainable development. He summarizes three views of sustainable development: neo-liberal, populist and interventionist, In the neo-liberal view, the environment is regarded as natural capital. Services that are derived from the environment depend upon its maintenance or renewal, otherwise, these services could sooner or later decline. In this light, Woodhouse claims that sustainable development could be understood in terms of a forest which is used for various purposes without diminishing its long-term value or it can be illustrated in terms of waste discharges that can still be converted into harmless forms.

This way of looking at sustainable development in terms of valuations in accounting procedures which are reflected in proposals involving industrialized and non-industrialized countries looks at the various components of the environment as commodities that can be traded or controlled by the principles of the market.

The declarations of environmental movements in Third World countries reflect the populist definition of sustainable development. Woodhouse refers to the Inter-regional Consultation on People's Participation in Environmentally Sustainable Development held in Manila in 1989 which states that the concept of sustainability is best understood in terms of the sustainability or non-sustainability of a community. Since authentic development enhances the sustainability of a community, the concept must therefore be understood as a process of economic, political and social change. This perspective adheres to a people-centered development, advocates locally-made products for local needs and is strongly opposed to urban and industrial development. It encompasses the significant dimension of empowerment.

International cooperation is the main agenda in the interventionist view of sustainable development. It emphasizes the need for international environmental treaties to be enforced logically by international agencies. This approach has often been dubbed "technocratic" and its failure is frequently attributed to conflicts of interest.

From another angle, Serageldin (1993) presents viewpoints emanating from three disciplines and their approaches to sustainable development. These include that of the economists who seek to maximize human welfare within the limitations of existing capital stock and technologies. Environmental economics helps to incorporate environmental and social concerns into economic decision making (Munasinghe, 1993). The ecologists, on the other hand, view the overall stability of the global ecosystem as critical hence, they emphasize the preservation of ecological subsystems. As Rees (1993) puts it, "As ecologists take on a larger role in economic decision making they bring a systemwide perspective, a long-term view that underscores prevention, and a package of ecological practices that reinforce sound socioeconomic development" (p.14). The sociologists stress the role of human beings as the key actors whose pattern of social organization bears tremendous significance in devising approaches to sustainable development. The social components of sustainability are equally important as the economic and technical ones. By "putting people first", the centrality of the social actors and their institutions in sustainable development is recognized and this improves social organization and enhances social capital (Cernea, 1993). While all of them would agree that the concerns of others are essential, they usually view these concerns from their own perspectives

In recent years, sustainability has been increasingly used instead of sustainable development. Munro (1995) explains that it has been derived from the term "sustainable development and that both have been used "to characterize almost any path to the kind of just, comfortable and secure future to which everyone aspires." (p.27). Elaborating on the definition of sustainable development presented in the IUCN/UNEP/WWF document "Caring for the Earth: A Strategy for Sustainable Living," in 1991 as "improving the quality of human life while living within the carrying capacity of supporting ecosystems" he focuses on ecological, social and economic factors in determining sustainability and defines it as "a continuous or iterative process through and throughout which experience in managing complex systems is accumulated, assessed and applied" (p.34). In a related light, Viederman (1995; 1996) pointed out that sustainability is not a technical problem that needs a solution. He considers it as a vision that offers direction and helps in focusing attention on a set of values and moral and ethical principles to guide individual actions or in relation to the institutional structures, governmental or nongovernmental with which individuals are connected. It is a community's control of all forms of capital be it natural, human, human-created, social and cultural so that present and future generations are guaranteed to enjoy economic security and achieve democracy. It likewise, ensures the integrity of the ecological systems upon which life depends. Thus, the three pillars of sustainability include: economic security which should contribute to a sense of interdependence among individuals and communities with common interests; ecological integrity, which comes about when individuals and communities live in harmony with the ecosystem and democracy which is characterized by citizen participation in community decision making.

Many global problems are in effect, issues that relate to sustainable development. Third world problems like population pressure, poverty and environmental degradation are all intertwined and rooted within the structure of North-South relations. The interrelationships between population and the earth's carrying capacity as well as environmental degradation and the depletion of natural resources along with threats to food security and the planet's health (Skinner, 1993; Norse, 1993; Brown, Flavin & Postel, 1993; Smith, C. 1994; Dahlberg, 1996; Ehrlich, 1996) affect the sustainability of both North and South. The debt burden and its links with natural resource depletion as well as the worsening of the poverty situation and trade and structural adjustments have been analyzed as hampering the attainment of sustainable development (George,1986; Raymond, 1993; MacNeill, Winsemius, Yakushiji, 1991; Korten, 1991). Some environmentalists have introduced the debt for nature swaps (Imber,1994), a strategy which rests on the notion that debts "can be bought on the secondary market and redeemed not only for equity investments in the industrial sector but also for investments in conservation" (Wapner, 1996, p.95).

Defining sustainability as "non-declining utility of a representative member of society for millennia into the future," Pezzey (1992, p.323) brings forward the main issue which he feels has been neglected in the literature on sustainable development: an evolutionary perspective on the anthropology, history, psychology, morality and technology of sustainability. He believes that this could lead to an interdisciplinary analysis of the potential of sustaining industrialized society. Although this potential is highly uncertain, policies could be formulated to make technology work more efficiently.

He foresees that global cooperation among very unequal nations will be essential in making policies towards sustainability work effectively.

Some writers view sustainable development as an ongoing process rather than as an end-product. Carley and Christie (1993) offer an action-centered network approach to environmental management characterized as more egalitarian and participative. Carrying strands of the populist perspective, this approach regards management as "teamwork based on continually evolving consensus on the direction towards sustainable development" (p.13). In a related light, Pirages (1996) expresses the conviction that becoming more sustainable is a continuing and long-term process because conditions shaping human opportunities are constantly being transformed. Because of this, alternatives must be explored so that sustainability could be approached in diverse ways such as the creation of new institutions and values system. To guide this process, Conca (1996) advocates designing a new set of institutions which could shape individual values and understandings and promotes the values of peace and justice. He finds the two paradigms of building a sustainable world, the paradigms of limits and restraint and that of optimization inadequate based on his evaluation using the criteria of peace and justice. He concludes that the values of peace, justice and sustainability may not be convergent goals but such values could serve to guide the design of legitimate, authoritative political institutions. Similarly, MacNeill, Winsemius and Yakushiji (1991) see the importance of political vision and courage in policy as well as institutional change in the effort to overcome the obstacles to sustainable development.

Since the environment is central to sustainable development, environmental justice is an important concept to be explored. In its advocacy of green justice, the New Internationalist (1993) illustrates the contrast of North and South situations. Three quarters of the world's people live in the South and they consume just one sixth of the world's resources. Their average income is 16 times lower than those in the North. One quarter of the world's people live in the North. They are responsible for the release of four-fifths of the world's greenhouse gases and almost 90 per cent of the CFC gases that destroy the ozone layer. Such a lopsided situation reflects the nature of North-South conditions. Jamieson (1994) analyzes the problems that arise when global environmental justice is equated with the overall picture of global justice. Many issues emerge when the environment is treated as a commodity to be distributed in accordance with principles of justice. He proposes that instead of treating the problem of the global environment as involving duties of justice among states, it should be treated instead as involving responsibilities of individuals who are related in various ways. He likewise, calls attention to the environment as constituting our identities.

How human beings view their relationship to the environment is also crucial to sustainable development. The basic principles of the deep ecology movement indicate an ecocentric, grassroots effort as contrasted with an anthropocentric, technocentric approach to the attainment of an ecologically balanced future (Naess, 1995; Naess & Sessions, 1995). Deep ecology is an environmental philosophy which brings the thesis of self-realization (Naess, 1995) as the expansion of the self beyond the confines of the narrow ego. This is carried out through the process of caring identification with the planet. Such identification has been invariably referred to and elaborated on in such concepts as the ecological self (Devall, 1995), ecocosm (Mathews, 1995) and transpersonal ecology (Fox, 1995). This ecological approach to being in the world finds a similar expression in Jardine's (1998) reminder of our "rootedness" in earth and the "belonging-together of things" (p.87).

An examination of ecological approaches leads to contrasting paradigms. Drengson (1995) who advocates for a paradigmatic shift from the technocratic to the person-planetary paradigm, explains that when paradigms are taken in an absolute fashion, it can lead to a condition of the mind which tends to reduce flexibility. He stressed that by contrasting paradigms, the mind could be freed from conceptual rigidity. The technocratic paradigm encourages centralization and the application of technology to all human life.

Nature is regarded as an object and machine. On the other hand, the person-planetary paradigm highlights the interrelatedness of the biosphere. It does not only recognize human values but also the intrinsic value of all organisms.

Similarly, Milbrath (1996) offers an analysis of two paradigms or two beliefs or ways of thinking in relation to the environment and development: the Dominant Social Paradigm and the New Ecological Paradigm. The Dominant Social Paradigm (DSP) reflects the dominant thinking in modern society which is highly anthropocentric with its notion that humans exercise control and domination in the management of nature and resources to suit their needs way into the indefinite future. It is also tied to the belief that technological progress is the solution to many development problems. The New Ecological Paradigm, exhibiting traces of the beliefs of early cultures in which the life patterns were attuned to the exigencies of nature, presents a different view of the role of human beings with regard to the environment. It underscores their dependence upon other species and holds the view that although human affairs are influenced by social processes, they are also affected by their biophysical environment which also imposes constraints upon human activities. In contrast to the Dominant Social Paradigm, it does not believe that science and technology could provide all the answers to problems. Rather, it believes that there are limits to the economic growth of human societies.

A marked distinction between the two paradigms points to the dominant paradigm's faith in the promotion of economic growth directed by market mechanisms to reduce poverty and inequality. In contrast, the proponents of the New Ecological Paradigm claim that economic growth, high consumption and unrestrained population levels spawn lifestyles that deplete resources, bring disturbances to ecosystems which unfettered markets can not protect. The two paradigms are reflective of Orr's (1992) two perspectives of sustainability: technological sustainability and ecological sustainability and Turner's (1988) sustainable growth and sustainable development modes of thinking.

Based on these two paradigms, one finds that the Brundtland Commission's Report in its emphasis on economic growth as the answer to the world's poverty and environmental problems is clearly situated in the Dominant Social Paradigm. Hence, following Orr's (1992) two versions of sustainability or Turner's (as cited in Fien 1993) pathways to sustainability, the Brundtland Commission's strategy to achieve sustainability runs parallel to the technological version or sustainable growth mode. Essentially reformist, this mode does not relate to radical changes in the present system of production. It highlights the functional and utilitarian aspects of the environment and proposes conservation as an optional strategy and the use of technological and economic mechanisms to chart an economic development path that could bring resources to sustainable levels. In contrast, the ecological version or sustainable development mode advocates for radical changes in the system. It involves an array of social, economic and environmental goals that take into account economic, environmental and justice imperatives in defining sustainable development. Although the Brundtland Commission Report bears important aspects within the ecological sustainability path, Fien (1993) identified dominant traces from a technological mode such as the Commission's unproblematic acceptance of the global economic system, the stress on faster economic growth and its silence on what it considers as elements of appropriate development.

In his discussion of different approaches to envcironmental education, Fien (1993) presents a review and pattern of environmental ideologies representing technocentrism and ecocentrism that run through shades of light green to dark green. In O'Riordan's (as cited in Fien, 1993) classification, there are two major positions under each ecological orientation. Under the technocentric position are the "cornucopian" and the accommodationist/managerialist approaches. The "cornucopian" position regards nature along with human and technological capabilities as being able to meet all human needs and wants indefinitely. The accommodationis/managerialist position which is basically reformist in orientation brings in the thesis that the environment can be managed to satisfy human needs and wants on condition that certain adjustments to ecological principles be made through legislation and management practices. The communalist/ecosocialist (red-green) and Gaianist/Utopian (Dark green) perspectives belong to the ecocentric path. Lying between a light green and dark green environmentalism, the communalist/ecosocialist red-green position brings in strands of the technocentric view of improved legislations that reflect ecologically sustainable development concerns as means to improve economic conditions and sustain equitable living. The Gaianist dark green position drawn from Lovelock's Gaia Hypothesis (Barnaby, 1988) of the earth as a single organism proposes the view of the oneness of people and nature or the earth. Ecosocialist beliefs underscore such views like the environment is a social construction, environmental politics as a process with all members of society participating, environmental problems are rooted in social systems and that solutions are found in personal and societal transformations.

An alternative to the dominant paradigm stresses the need to go beyond surface level solutions for a deeper understanding of social and economic systems. De la Court, (1992) who presents an alternative paradigm, claims that poverty is rooted in the linkage of the two worlds, North and South which is characterized by exploitation with the North having "too much" and the South having "too little." He proposes the following guiding principles of sustainable development which are integrally linked:

> 1. The principle of "cultural and social integrity of development." Borrowing form Lloyd Timberlake, development must grow from within and not be slapped on from the outside.
> 2. The "ecological principle": development must adapt to and restore diversity and rely on sustainable forms of resource use.
> 3. The "solidarity principle": development must provide the basic necessities of life and secure living conditions for all people, promote equity, and avoid unequal exchange.
> 4. The "emancipation principle": development must foster self-reliance, local resource control, empowerment and participation of the underprivileged and marginalized, and offer opportunities for self-satisfying action.
> 5. The "non-violence principle": development must be peaceful, both in the direct and in the structural sense.
> 6. The "principle of error friendliness": development must allow for mistakes without losing the integrity of the immediate system and resource base. (p.44)

The North-South entangle brings into the sustainable development question what measures the North could adopt to contribute to the planet's state of well-being. In their book, "Greening the North," Sachs, et al (1996) offer eight paradigms relating to various areas of social renewal which leads to the kind of desired transformation to a sustainable society. These eight paradigms are embodied in: moderation in time and space; a green market agenda; going from linear to cyclical processes of production; well-being instead of well-having; intelligent infrastructures; regeneration of land and agriculture; striving towards a livable city; and, international equity and global solidarity.

Sustainable development also encompasses issues that press for the need to redefine "progress." The GNP (gross national product) is no longer considered a reliable indicator of sustainable development because through this measure, the depletion of resources which could be considered as "an ecological bad" could be an "economic good." At the same time, social ills could be ignored even as there are indications of economic growth (Pirages, 1996). Halstead and Cobb (1996) likewise, assert the need to replace the Gross Domestic Product (GDP) with the Genuine Progress Indicator (GPI) as a measure of progress. The GPI takes many factors into account such as resource depletion, pollution, income distribution, among others. Daly (1996) offers guidelines and suggests alternate measures of long-term ecological progress that could replace the GNP. A suggested ethic revolves around the terms "sustainability," "sufficiency," "equity" and "efficiency" expressed as: "We should strive for sufficient per capita wealth, efficiently maintained and allocated, and equitably distributed for the maximum number of people that can be sustained over time" (p.168).

A significant issue in the area of sustainable development is the role of women. Although women make significant contributions to the economic support and care of their families and participate actively in resource use and production, their role in sustainable development is often overlooked. As well, they do not seem to benefit from the process of development because they are often denied access to resources and technologies.

Hence, poverty among women is widespread (Mehra, 1996). As Topouzis (1990) reported in her article, "The Feminization of Poverty," with the worsening economic situation in Africa, those who are getting poorest are women. She claimed that women's poverty had been due to government neglect and cultural factors. In a related light, Adams (1993), critically aware of the struggles of women, underscored the role of ecofeminism in the transformation of an unjust social order. Claiming that ecofeminism does not presuppose a unity that erases differences among women, she argued that in engaging with the world, ecofeminism involves the recognition of the inequitable distribution of wealth and power and its relationship to the abuse of nature. Ruether (1996) expressed a related view as she traced the symbolic and social connections of the oppression of women and the domination of nature. Explaining that ecofeminism emerged from the union of the radical ecology movement or "deep ecology" and feminism, she pointed out that in ecofeminist culture and ethic, mutual interdependency "replaces hierarchies of domination as the model of relationship between men and women, between human groups and between humans and other beings" (p.330).

In recent years however, increasing evidence has shown that women's participation and involvement is also critical in many conservation and development projects. Citing a case study in the Philippines, Mehra (1996) presented the view that failure to recognize the role of women in development projects meant losing a chance to enhance their economic opportunities. She stressed the importance of integrating women into community-based resource conservation projects. and giving them equal access to resources and services.

The case of indigenous peoples has been a recurrent theme in sustainable development issues. This is not only because the culture of indigenous peoples is closely linked to their relationship with their environment but because they are often the victims of the consequences of "development" (Dahlberg, 1996). Claiming that although a "global liberation movement" for indigenous peoples is still uncertain, Charles (1990) observed that they are becoming more assertive and courageous in laying claim to their history and heritage. Furthermore, with the recent international agreements such as Agenda 21, the Convention on Biological Diversity and the Convention to Combat Desertification in Countries Experiencing Serious Drought, the importance of involving indigenous peoples in national strategies for sustainable development has been highlighted in the IUCN-Inter-Commission Task Force on Indigenous Peoples' (1997) publication, "Indigenous Peoples and Sustainability." Viewing sustainability in the context of conservation and development, the book recognizes that principles of sustainability are embodied in indigenous knowledge systems hence, others can learn from them with regard to the conservation and use of traditional resources.

The forces of globalization affect the process of development. Several writers have explored the impact of globalization on the environment. Transnational corporations have caused the depletion of resources and the pollution of land, water and air in host countries. (Goldsmith, 1996; Khor, 1996; Goodland, 1996). Agribusiness has threatened food security as lands are being utilized for cash crops meant for export (Lehman and Krebs, 1996; Dahlberg, 1996). Globalization has been shown to cause the homogenization of culture (Barnet and Cavanaugh, 1996) and the subversion of the democratic process (Nader and Wallach, 1996).

The development of an environmental ethic and values illustrates an understanding of the relationship of human beings with their environment. Westra (1994) emphasizes the principle of integrity in her environmental proposal for ethics. Rodman (1995) discusses the reconsideration of four forms of ecological consciousness and suggests that ecological sensibility be the starting point for a global environmental ethic. Shrader-Frechette (1998) explores and describes several general environmental ethics derived from moral philosophies which are sometimes identified with "establishment" or have emerged from new beliefs which are likewise dubbed as "counterculture."

The literature on sustainable development has been enormous as it has various dimensions and the issues are complex and cuts across disciplines and geographical boundaries. The next section focuses on sustainable development in the Philippine setting.

Sustainable Development in the Philippines

The Philippines is one of the developing countries which is at the throes of an environmental crisis. It is characterized by massive deforestation and degradation of the land while marine and coastal resources are dwindling as rivers become polluted. This scenario has rallied citizen's movements, religious organizations and NGOs to challenge development policies and projects which pose serious threats to the environment (Kalaw, 1993). Likewise, the concept of sustainable development is beginning to shape development policies as environmental groups have begun raising their concerns and the government has started looking into sustainable development strategies in line with Agenda 21. The Foundation for Nationalist Studies (1991) which has outlined a Filipino vision of development consisting of a compendium of reform measures including among others environmental and natural resources reforms, claims that there are existing policies to safeguard the environment and what is really needed is a more faithful enforcement of such safeguards.

Some views of sustainable development have also emerged. Torres (1993) quoted the definition of the term in the 1992 University of the Philippines National Assessment Report on the Environment in a paper presented in the Tenth Biennial Conference of the Association of Asian Social Science Research Councils in 1993 as a "dynamic process in which the development and utilization of resources, orientation of technological development, institutional changes and direction of investments are in harmony and enhance both current and future potentials to meet human needs and aspirations " (p.1).

There is a tendency to use sustainable development and environmental care as if they are one and the same thing. Soriano, Claudio and Fansler (1995) make the distinction when they wrote: "Sustainable development is not environmental protection alone. It is also about the attainment of social equity and the promotion of lifestyles, values, and technologies which reflect concern for the earth, humanity and future generations" (p.3).

In 1987, the Department of Environment and Natural Resources initiated the process of formulating a Philippine Strategy for Sustainable Development. This was achieved through a series of consultations with different sectors of society. On November 29, 1989 the conceptual framework was approved through Cabinet resolution No.37 subject to certain modifications. In its stated goal, the Philippine Strategy for Sustainable Development (DENR,1989) stressed the need to regard environmental protection and economic growth as in harmony. An implication of this goal is that growth is compatible not only with the needs of society but also with the carrying capacities of ecosystems. The document considers sustainable development in operational terms through the following guiding framework of actions:

> ° a systems-oriented and integrated approach in the analysis and solution of development problems;
> ° a concern for meeting the needs of future generations, otherwise termed as intergenerational equity;
> ° a concern for equity of people's access to natural resources;
> ° a concern not to exceed the carrying capacity of ecosystems;
> ° living on the interest rather that on the capital or stock of natural resources;
> ° maintenance or strengthening of vital ecosystem functions in every development activity;
> ° a concern for resource use efficiency;
> ° promotion of research on substitutes, recycling, exploration, etc. from revenues derived from the utilization of non-renewable resources;
> ° a recognition that poverty is both a cause and consequence of environmental degradation; and,
> ° promotion of citizen's participation and decentralization in implementing programs.(p.5)

Following the Earth Summit in Rio de Janeiro which brought forth Agenda 21, the Philippine Council for Sustainable Development was established by virtue of Executive Order No.15. Its main function is to monitor the government's compliance with its

UNCED commitments. The council is responsible for reviewing commitments, conducting policy research, performing advocacy work, and drafting legislation on sustainable development (Soriano, Claudio & Fansler, 1995). Memorandum Order 288 directed and activated the formulation of Philippine Agenda 21, the national blueprint for sustainable development in the 21st century. Philippine Agenda 21 (PCSD, 1996) contains a "People's Covenant towards a Transition to Sustainable Development," a conceptual framework and an operational framework and an action agenda. Its conceptual framework recognizes as key actors in the three realms of sustainable development, business in the economic realm, government in the polity realm and civil society in the culture realm. It adheres to the following principles:

- Primacy of developing human potential
- Holistic science and appropriate technology
- Cultural, moral and spiritual sensitivity
- Self-determination
- National sovereignty
- Gender sensitivity
- Peace, order and national unity
- Social justice and inter-/intra-generational and spatial equity
- Participatory democracy
- Institutional viability
- Viable, sound and broadbased economic development
- Sustainable population
- Ecological soundness
- Biogeographical equity and community-based resource management
- Global cooperation (PCSD, 1996, p.x)

Sustainable development also calls for the conservation of the nation's resources. However, these resources have been greatly affected by the encroachment of development projects and the business activities of investors. For example, Tubbataha, the largest coral reef atoll in the country and the only marine national park in Palawan (a big island in Central Philippines) had been the object of debate between conservationists composed of government officials, divers and tourist boat owners, and Shemberg Marketing Corporation, Asia's largest seaweed firm (Arquiza, 1990). The conservationists finally reclaimed the marine park. Likewise, because of the deteriorating state of the country's coral reefs, their protection has been the focus of the conservation projects of Haribon Foundation, an NGO, Ocean Voice International and the International Marinelife Alliance. This also includes the protection of other forms of marine life like tropical fish which have been caught with the use of sodium cyanide for the aquarium industry (Arquiza, 1990; Hunt,1996). Another development project is the Mt. Apo Geothermal Plant Project of the Philippine National Oil Company (PNOC) which was met with opposition by the indigenous peoples living in the area (Arquiza, 1990). Designed to provide electricity to the surrounding areas, the project was stalled for some time. Finally, PNOC was allowed to continue after it got the go-signal from the Department of Environment and Natural Resources.

The protection of the country's forests had also been waged against logging companies operating in various parts of the country as in Cagayan province, (De la Paz, 1990), Samar (Yabes), San Fernando, Bukidnon, (Hofer, 1990) and Isabela (Batario, 1990). With the failure of the Timber Licensing Agreement (TLA) system, a management strategy in which large tracts of public forests are awarded as concessions to the public sector, an alternative community-based forest management has been promoted. Tracing the evolution of community-based forest management, Guiang (1993) claimed that even with stringent regulations to insure sustainable management of the country's public forests, graft and corruption and colonial interests marred the TLA system. After some decades of uncontrolled environmental exploitation, the effects soon backfired. Under the leadership of the DENR, people-oriented forestry was highlighted as a management strategy for forest development. In a related vein, Wallace (1993) tackles the logging ban issue by highlighting the reasons for its failure to save the forests. Stressing that logging alone does not cause deforestation, he asserts that the ban fails such standard economic criteria as efficiency and equity and ironically, may have resulted in increased illegal logging.

Another key issue that arises in the development-environment debate involves the rights and cultural survival of indigenous peoples who are often dislocated by business enterprises or corporations which have invaded the tropical forests. Stiles (1991) brings the issue of environmental and cultural survival in Palawan Province by presenting Haribon's organizational work with tribals in the area. Struggling for their ancestral domains, tribal Filipinos have been victims of economic and cultural exploitation. It is often argued by those who have designs on indigenous lands that indigenous peoples do not utilize the land fully or they misuse the natural resources so these must be tapped in the interests of national development. However, NGOs and organizations concerned with the environment and human rights are working towards the protection of both natural resources and cultural groups in tropical forest ecosystems. With the doctrine of people empowerment, through the Ancestral Lands Law, these ethnic groups may soon have legal rights to the land and resources which they have traditionally depended upon and have managed sustainably as well (Lopez, 1993; Alianza, 1991).

Concerns over endangered species have also been expressed by environmental groups like the Wildlife Conservation Society of the Philippines. The tamaraw which is the largest mammal native to the Philippines as well as some rare plant species are being endangered (Esplanada, 1999). In describing the status and in analyzing the issues concerning Philippine biodiversity, Sajise and Sajise (1995) concluded that there are indeed indications of high biodiversity and endemism in the country but there is a need for a more scientific and reliable inventory of the flora and fauna from major ecosystems. They recommended that educational institutions located near protected areas could be involved in biodiversity conservation and management.

In his analysis of the ethical policy and economic context of protecting biodiversity like the Makiling Forest Reserve, Caldecott (1995) reports that the moral context is drawn from the Catholic church and its position describing the preservation of biodiversity as "an act of stewardship over nature" (p.5). The policies are drawn from the Global Biodiversity Strategy of the World Resources Institute (WRI) of the International Union for the Conservation of Nature (IUCN) and the United Nations Environment Programme (UNEP). The economic context revolves around the valuing of biodiversity assets and environmental services.

Ecological movements have made significant inroads in keeping watch over so-called development projects that could pose threats to the environment. The protests from the people of Bolinao (a municipality north of Manila), foreign scientists and environmentalists concerned with an P18-B cement plant's ecological impact, resulted in the project's cancellation (Cardinoza, 1996). Green Forum-Visayas had also warned that unless measures are implemented to protect the Baloy-Madjaas mountains of Panay in Central Philippines, the four provinces are in danger of losing their potable water in ten years. Green Forum also expressed alarm over mining explorations going on in the area as well as the entry of foreign groups conducting various research and scientific investigations (Bandiola, 1995). In his paper, Lawless (1992) cited the campaigns of Green Forum and PEAN (Philippine Environmental Action Network) towards the goal of protecting the environment. He asserted that the new breed of environmental activists have recognized that indigenous responses to the environment could lead to greater protection of the planet. He also deplored the environmental plunder that resulted in the pursuit of economic growth.

Kalaw (1990 in his discussion of the role of Philippine NGOs on sustainable development brought into light the perception of Green-Forum Philippines on the need for "an evolution of authority from an ideology on ecology and a devolution of power from state to persons" (p.9). He stressed the main functions of NGOs as the empowerment of people and communities towards self-development and self-government. Green-Forum advocates a life-centered and community-focused development as the core of an alternative development strategy. Likewise, in his reflections on sustainable spirituality, Kalaw (1993) cited the belief systems of various faiths converging in the concept of sustainability that carries justice, peace and the integrity of creation. He asserted that this kind of spirituality "integrates our faith, our daily lives and all of creation and connects our lives with past, present and future and to God" (p.5) which is the essential foundation for sustainable development.

As a response to the national government's vision of rapid industrialization by the year 2000, Bello's (1993) analysis of the NIC strategy as a model of Philippine development puts forward the environmental issue in the quest for high economic growth. He claims that the loosening of environmental controls has resulted in a severe environmental crisis in Taiwan and Korea. Pollution has rendered many rivers biologically dead and farmlands contaminated beyond tolerable levels in these countries posing serious dangers to human health. Bello argues that if the Philippines were to embark on the same degree of industrialization as Taiwan and Korea, it would be tantamount to "courting environmental collapse" (p.11). Responding to Bello's analysis of Philippine industrialization, AFRIM (Alternate Forum for Research in Mindanao) in a rejoinder, contends that Bello's analysis remains useful and instructive especially with the government's focus on NIChood and Mindanao's role as the apex of East ASEAN's (Association of Southeast Asian Nations) Growth Triangle. The article agrees with Bello's view that the system's structural defects are not substantially addressed by Philippines 2000. It concludes that the last option for the Philippines lies in its own resource base, to build on its strength and be self-reliant.

The reported growth in the Philippine economy, posting a 5.5 per cent increase in the GNP in 1994 was the focus of Hipolito's (1995) analysis taking into consideration other development indicators like employment, inflation, investments among others. The reality that the benefits of the fast-tracked industry-led model of growth do not accrue to all the people brings justification to the charge that the reported GNP increase is a "statistical mirage." He asserts that the slow implementation of the Comprehensive Agrarian Reform Program has caused the stagnation of the agricultural sector hence, while industry may have expanded, agriculture lagged behind. The incongruity of statistics with reality is further reinforced by an examination of the impact of globalization and industrialization through Mindanao 2000. De la Rosa (1996) points to the environmental degradation, the depletion of the nation's resources, the threat to food security and the discrimination of labor as a result of adopting an export-led, enclave type economy and an extractive development policy. He calls for Mindanao activism that could crystallize the people's development agenda because "despite the claims that Mindanao 2000 was drawn up through a process of wide-ranging consultations... the final document of the framework development plan has remained largely mysterious to the people of Mindanao" (p.8).

The issue of a just and lasting peace as a necessary element in striving for sustainable development in the Mindanao region has been the focus of so much attention with the creation of the Southern Philippines Council for Peace and Development (SPCPD). Executive Order No. 371 (1996) proclaimed a Special Zone of Peace and Development (SZOPAD) in the Southern Philippines composed of fourteen provinces and nine cities as the focus of intensive peace and development efforts for three years following its implementation. These development efforts are to be carried out by institutional mechanisms such as the Southern Philippines Council for Peace and Development (SPCPD), the Cabinet Officer for Regional Development (CORD) system, Southern Philippines Development Authority, regional development councils system and the area-specific development task forces. As well, development efforts are to be carried out with existing development programs like the BIMP (Brunei, Indonesia, Malaysia and Philippines)-East ASEAN Growth area, Social Reform Agenda localization programs, flagship projects and the Presidential Council for Countryside Development.

The quest for peace has gone through a very long process in Mindanao. The Moro struggle for self-determination could be traced to the Spanish colonial period. It literally exploded in the'70s during the Marcos martial law regime which led to the Tripoli

Agreement. With the downfall of the Marcos dictatorship, the process involving the Tripoli Agreement was resumed. The peace negotiations followed. From a situation of conflict to a culture of peace, the process proceeded along several stages: Negotiations (Peace-making); Ceasefire (Peace-keeping); Reconciliation (Confidence-building); and Development (Peace-building) (Mercado, 1996) The Peace Accord was initialed in Jakarta, Indonesia by the Government of the Republic of the Philippines and the Moro National Liberation Front (MNLF) on September 29, 1996. In his analysis of the peace process and its significance for Mindanao, Quitoriano (1995) underscored the participation of the people whom he considers as the dominant player in the peace process. Peace advocates in Mindanao need to consider the serious Moro question since understanding the fundamental cause of the armed conflict demands that the socio-historical processes are examined. De la Rosa (1995) stresses that peace and political stability are a precondition to economic development under any social system. He contends that with government development efforts and regional attention focused on Mindanao, the challenge to Mindanao NGOs and POs is to find the basis for a popular movement for a just and lasting peace.

In line with Agenda 21, Soriano, Claudio & Fansler (1995) present the basic sustainable development issues and measures for addressing them in their book, "Sustainable Development: A Philippine Perspective." Along with the environmental problems besetting the Philippines, they also highlight the initiatives of individuals, communities and organizations which can inspire other people for greater involvement in sustainable development activities.

The role and involvement of NGOs in sustainable development has been recognized in sustainable development literature. Tracing their evolution and development, Kalaw, Jordan and Torres (1991) describe their expanding roles starting from their early relief and welfare service after which, they served as proponents and implementors of projects and as community developers and finally, as the voice of the people in articulating their vision and political will. With the deterioration of the environment, NGOs are in the forefront of environmental struggles. There are NGOs that try to seek changes in policies while striving for greater local control and initiative through lobbying and advocacy. Green-Forum Philippines sees as the main function of NGOs, the empowerment of people and communities towards self-development and self-government. Its concept of empowerment is expressed thus: "Authority when it proceeds from an ecological consciousness carries with it a different view of power. It sees power as the flow of life within a whole" (Kalaw,1990, p.9).

Education for Sustainable Development

Agenda 21 (Quarrie, 1992) underscores the salience of education in promoting sustainable development and improving the capacity of people to address environment and development issues. It is through education that transformations in values and attitudes, skills and behavior are achieved through a broadened and deepened understanding of sustainable development issues and concerns. In the quest for sustainability, the transition period is a very critical one. This is because the shift to a new way of life demands a corresponding change in the way we view the world. Likewise, a necessary shift in people's views concerning their relationship with other humans and the biosphere must be made. This also demands a strong commitment from all sectors of society since it will involve a kind of revolution in institutions, systems, lifestyles and values (Fien & Trainer, 1993).

In 1977, the first Intergovernmental Conference on Environmental Education organized by UNESCO in cooperation with the United Nations Environment Program (UNEP) was held in Tbilisi, Georgia. It served as a follow-up to the United Nations Conference on the Human Environment held in Stockholm in 1972 as a way of determining its implications for education. It also marked the culmination of the first phase of the International Environmental Education Programme which brought forth the guidelines for the Tbilisi Conference. Under this program, UNESCO conducted a survey of international environmental education needs and priorities and organized an international workshop in Belgrade in 1975 and regional and subregional meetings in Africa, the Arab States, Asia, Europe and Latin America (UNESCO, 1980)

The Tbilisi Conference marked the initial stage for an international environmental education programme that met the wishes of the Member States.

> In particular, it helped to specify the actual nature of environmental education by laying down its aims and characteristics as well as the strategies to be adopted at the national and international levels. It considered that environmental education, as an essential component in comprehensive lifelong education, with a problem-solving approach and providing for active involvement by the public, should help to make education systems more relevant and more realistic and to establish greater interdependence between these systems and their natural and social environment with a view to increased well-being in human communities. (UNESCO, 1980, pp. 7-8)

The UNESCO (1980) publication claims that education has always been associated with the environment. In earlier societies, people's preparation for adult life is always related to their experience with nature. The curricula of the modern system of education has always included objectives related to the biological and physical environment. Subjects then, were taught separately and without coordination. This kind of education was too often abstract as it was not linked to the world around the learners. It often failed to dwell on responsibility towards nature. More recently, with economic concerns intertwined with ecological disciplines, the environment became explicitly included in education but this dealt only with conservation of natural resources and the preservation of plant and animal life. With the guidelines formulated by the United Nations Conference on the Human Environment in Stockholm in 1972, the socio-economic and cultural dimensions help the learner to understand and make better use of his resources. The role and objectives of environmental education have been developed with the various meetings organized by the international bodies.

For education to run smoothly along its course, an ecological philosophy of education must be formulated. Fien and Trainer (1993) provide two principles which should govern an ecological philosophy of education. These two principles are:

Education for sustainability must promote an understanding of our ecological dilemma. An awareness of the many problems involved and an understanding of the root causes could bring about the need to participate in their solution. Attention could be focused on the nature of our present society with its consumerist orientation and the lifestyles it promotes which are not compatible with the goals of global sustainability. Education for sustainability should provide an adequate rationale for change.

Education for sustainability also demands that we have an awareness of how the global system works and how all the parts are interconnected. This entails having a deep concern about the welfare of the planet, its ecosystems, its culture and its people. It is important that people understand that they are part of nature and they are part of a big system hence, problems must be viewed holistically.

In a related vein, Fien (1993) has identified three approaches to environmental education and their ideological bases. These approaches include education *about* the environment, education *through* the environment and education *for* the environment.

Education *about* the environment is the most common form of environmental education. Its emphasis is on knowledge about natural systems and processes and the ecological, economic and political factors that influence decisions about how people use the environment. Resolving environmental issues demands an adequate knowledge of the interaction of the natural and social systems.

Education *through* the environment is a learner-centered approach to environmental education. It makes use of students' experiences in the environment as a medium for education. Designed to make learning experiences realistic, relevant and practical, it aims to develop students' appreciation of the environment through direct experience and to enhance their technological and manipulative skills as well as social skills.

Education *for* the environment carries an agenda of values education and social change. Its objective is to engage students in exploring and resolving environmental issues to foster the values of the New Environmental Paradigm. It also aims to promote lifestyles that are in harmony with the sustainable and equitable use of resources. It builds on education *about* and *through* the environment to help students become informed, sensitive, responsible and competent participants in environmental protection and improvement. The two approaches help provide the skills and knowledge that could help lead to the transformative goals of education *for* the environment.

Fien (1993) also presents several critiques directed at the different approaches to environmental education. The content and method chosen in a conservative education about the environment is based on technical rationality which promotes the belief that humans have a right to control nature and for science and technology to manage the impact of environmental degradation. A liberal education about the environment promotes the belief that accommodations can be made in working out solutions to problems. It also promotes the belief that environmental problems can be solved through scientific and technical means without consideration for the social contexts. With an uncritical form of pedagogy, students are given a depoliticized and dehumanized value to the world. Since education through the environment uses the environment as a medium for education, it promotes the belief that society and education should be reshaped in accordance with natural development and ecology thus reflecting ideas of natural determinism. The criticism on education for the environment has been centered on its anthropocentric nature, the narrow scope of ecosocialist politics in relation to green politics, the potential dangers of bias and indoctrination and the tension between the values of the New Environmental Paradigm and the values of the Dominant Social Paradigm which are very much linked to contemporary schooling. In response, it has been argued that education for the environment promotes the active participation by students in solving environmental problems.

In his discussion of what it means to educate people to live sustainably, Orr (1992) identifies six foundations of education. First, all education is environmental education. Students learn that they belong to or are outside of their natural world by what is included or excluded, stressed or ignored in education. Second, environmental issues are complex and cannot be understood through a single discipline or department. Institutions need to be transformed into transdisciplinary laboratories which would hold various components facilitating the study of interactions across disciplines. Third, for inhabitants, education occurs in part as a dialogue with a place and has the characteristics of good conversation. In conversation, people define themselves in relation to the other, hence it is an acknowledgement of the existence of the other. Fourth, the process is as important as its content. Environmental education must therefore be lived because real learning is participatory and experiential. Fifth, experience in the natural world is both an essential part of understanding the environment and conducive to good thinking. To understand nature is to have an observant and disciplined intellect. Experience therefore helps in the development of good thinking. Sixth, education relevant to the challenge of building a sustainable society will enhance the learner's competence with natural ecosystems. This relates to the importance of practical competence as an indispensable source of good thinking. Good thinking emanates from the convergence of reflective thought and real problems.

One of the important tasks of schools today is the teaching of environmental awareness. Kastenholz and Erdmann (1994) drafted a theoretical model for imparting environmentally compatible behavior at school based on UNESCO's recommendation for education and the Man and the Biosphere Programme (MAB). This model reflects the ethical principles of the MAB Programme and highlights the humanistic dimension of education as advocated by UNESCO. The role of teachers has been underscored in this model. To promote environmentally conscious behaviors, teachers need to inculcate humanistic values such as social responsibility, compassion, non-violence and equality. Social responsibility, solidarity, cooperation and peaceful resolution of conflicts and other values do not come about as a result of lectures on moral development but depend largely on teachers' personalities and their being exemplars in the process. This instructional model illustrates that successfully imparting environmentally conscious behavior needs to reflect a scientific image of humankind, the character of a trained teacher and the teaching of facts and humanistic values.

The British Environment, Development, Education and Training Group Report (as cited by Fien and Trainer 1993) considers education for sustainability as a process rather than a fixed goal. It is a process which enables people to understand the interdependence of all life; heightens people's awareness of the economic, political, social, cultural, technological and environmental forces which foster or impede sustainable development; develops people's competence, attitudes and values that would enhance their effective participation and involvement in sustainable development at all levels; and affirms the validity of approaches contributed by environmental education and development education and the need to integrate and further develop the concepts of sustainability from other related disciplines.

In their critical analysis on writings on education for sustainability, Fien and Trainer (1993) find that much writing on this issue is based on an unproblematic view of sustainable development and assumptions about education and social change. Likewise, they note that some writers fail to probe deeper into the issue of values relativity and liberal idealism hence, they propose a critical framework for the analysis of alternative positions on sustainability. This framework would involve providing learning experiences for students to "identify and challenge the assumptions of all positions; imagine, explore and critique alternatives to their own position; question the influence of context and the social interests served by all positions, use the values of ecological sustainability, justice and democracy as criteria in the evaluation of all positions and adopt a reflective scepticism to their own and other people's ideas and actions" (p.16).

The importance of education as a powerful strategy for sustainable development has been recognized by the National Round Table (BCRTEE, 1993) which was mandated by the Federal government of Canada to bring existing organizations together and work for the integration of the environment and the economy. An independent sustainable development initiative called "Learning for a Sustainable Future" has been established for the formal educational system. It was based on the premise that education is the key in the transformation of public concern into appropriate decision-making and action and also in helping the new generation to understand the interdependence of the environment and economic development, acquire the necessary skills to find the balance between them and to develop the commitment to participate in the search for a more sustainable future.

The primary aim of the learning strategy for sustainability as designed by the British Columbia Round Table (1993) is to help bring about the fundamental change in values, attitudes and skills so British Columbians can adapt to change, help them build consensus and empower them to participate fully in a sustainable future. In the formal education system, the strategy has three fundamental components: incorporation of sustainability into existing disciplines, teaching of specific skills for sustainability and new training for educators in the non-formal education system. The three fundamental components are: education and information for policy and decision-makers, education and information for opinion leaders and a public information and awareness program.

Ken McCready (1993), chair of the Alberta Round Table on the Environment and Economy claims that "the whole concept of sustainable development is an essential context for our thinking and action with respect to both the environment and the economy" (p.1). It is definitely not a trade-off, nor an *either/or* but a *both /and* situation with the goal of delivering a higher quality of life to the future generations as the unifying aspect. It strengthens the proposition that economic development and environmental protection must and can be pursued at the same time.

The Alberta Round Table on the Environment and the Economy sees "education as a basic mechanism in delivering the message of sustainable development to the people of Alberta" (McCready, 1993,p.3). McCready claims that when sustainable development is taught as a context, people soon begin to feel a sense of personal commitment leading to new actions. Likewise, the idea of regarding it as a context for thinking and action rather than just another subject area makes it less of a burden for educators because it can form the basis for teaching many concepts throughout the curriculum.

Environmental education is not only concerned with facts and principles. It needs to be translated into positive action. In a study of environmental participation, within a context of two small groups of high school students, it was revealed that positive environmental action can not be explained by predictors of individual behavior. The results indicated the interactive and dynamic relationship between learning and environmental action. Such relationship is greatly influenced by the participants and their social situations (Emmons, 1997).

Several strategies have been tried in the development of knowledge, attitudes or awareness of environmental issues. A study on the use of interactive worksheets to develop students' environmental knowledge was found to be effective in increasing environmental knowledge and at the same time, in correcting misconceptions (Ballantyne, Witney and Tulip, 1998). The use of a strategy based on humanistic education with key points focused on feeling environments through the body was also found to be helpful in fostering environmental sensitivity (Park & Chang, 1998). The use of adaptive concepts in environmental education, management education and sustainability was also explored and evaluated. Findings indicated its validity and its usefulness as an intervention and teaching mechanism (Gough, Oulton & Scott, 1998). A variety of activities was used in the study of extinction in environmental education aimed towards a redefinition of extinction in terms of what it means to students' lives. It was found that these activities helped students recognize their interconnectedness with the rest of nature (Bell, Russel & Plotkin, 1998). The significance of narratives as a pedagogical strategy in environmental education was highlighted by Sandlos (1998) in his analysis of the storied curriculum

Empowerment and the process of transformation through consciousness raising as advocated by Freire (1974) stress the importance of dialogue. With environmental issues rooted in the political, social and economic structures, consciousness raising as a strategy promotes a relationship of mutual respect among participants. Through the process of reflection and dialogue, participants develop an awareness and deeper understanding of their realities as drawn from their daily struggles and life experiences.

In his essays where he explored the relationships between hermeneutics, curriculum and ecology, Jardine (1998) claims that "each of these disciplines is at its best when organized around ideas of interrelatedness, generativity, relationships (shared and contested) of kinship and ancestry, and the cultivation of whole and healthy relationships between the young, new or innovative and the old, established and proven" (p.1). Viewing education as a deeply Earthly task, he finds ecology as offering both hermeneutics and education images of histories, places and disciplines that transcend the immediate and physical. By regarding curricular disciplines as "open fields of living relations" which need constant renewal and transformations, these disciplines possess a kind of appeal with the combination of the wisdom of the old and the freshness of the young.

Employing the metaphor of the ecological footprint, Zuber (1997) brings the salience of inexpensive, replicable and locally-focused environmental education activities to provide students with knowledge and skills that will enable them to effectively engage in environmental issues and strategies for lightening environmental steps. Also, in drawing the line between indoctrination and environmental empowerment, he strongly opposes the use of indoctrination within formal education as this has led many schools to veer away from issues deemed controversial. He concluded: "We must also learn--through formal and non-formal means-how to lighten our step on the earth. In a world of increasingly scarce resources and wide economic divisions, when people use more than their share, other people do without" (p.6).

Education for Sustainable Development in the Philippines

In the Philippines, education for sustainable development is still in its incipient stages although environmental education has been incorporated in the curriculum a few decades back. The need to reconceptualize environmental education towards education for sustainable development has been recognized by the study on environmental education conducted jointly by the Environmental Management Bureau (EMB) of the DENR and the Educational Projects Implementing Task Force of the DECS (DENR-DECS, March 1992). In the study, the evolution of environmental education in the formal school was traced. Environmental education was a response to the demand for relevance in the school curriculum. In the '70s, education was strongly focused on concepts and principles. However, these were taught detached from what was happening in the students' lives. This situation called for reforms in the curriculum through the inclusion of societal issues. Although this provided opportunities for the development of attitudes such as caring and concern for the environment, it was noted that the environmentally-oriented curriculum did not address the problem of poverty. The deep roots of environmental degradation in the economic, social, cultural and political structures and policies were not integrated. Realizing this, recent development efforts have been focused on orienting environmental education to national development needs. Environmental education has been placed in the perspective of sustainable development. There was a felt need to reconceptualize environmental education towards education for sustainable development to make it more relevant to the Philippine context.

One of the fundamental strategies for sustainable development put forth in the Philippine Strategy for Sustainable Development (PSSD) adopted in 1989 was the promotion of environmental education. A multi-sectoral workshop was convened by the Environmental Management Bureau which drew a draft National Strategy on Environmental Education which has since guided EMB in monitoring its environmental education programs. In response to the call for intensified education and training programs for the development of conservation values and integration of environmental concepts as contained in the Philippine Medium Term Development Plan for 1987-1992, a study was conducted with technical assistance from the Asian Development Bank, by the Environmental Management Bureau and the Educational Projects Implementing Task Force. Conducted in three phases, the study covered a state-of-the-art review of environmental education in the Philippines; the preparation of a National Action Plan in Environmental Education and the implementation of key intervention projects identified in the action plan (DENR-DECS, May 1992).

The DENR-DECS (March 1992) state-of-the-art review in environmental education covered a very broad scope. It examined the implementation of environmental education in all levels of education from the primary to the graduate levels in both formal and nonformal contexts. In the tertiary level, some of the highlights of the findings included the following: only a few universities offer integrative and interdisciplinary environmental science and management courses and most of these are located within Metro Manila and Los Banos, Laguna; faculty members with PhD and Master of Science (MS) degrees in Environmental Science/Management are concentrated at the University of the Philippines; all the private universities and colleges surveyed fully implement the DECS prescribed curricula for General Education and Professional Education courses in which environmental science/management courses are included; the major issues and constraints in the teaching of environmental education included the lack of facilities and equipment including library resources, lack of faculty with advanced training in environmental science and management and lack of instructional materials. The constraints all boil down to the lack of funds to support environmental education programs.

A follow-up to the state-of-the art review of environmental education in the Philippines brought forth the National Environmental Education Action Plan (NEEAP) designed to address the environmental education needs of the different sectors such as basic education and teacher training, tertiary education and specialist training and nonformal education. The sectoral plans are set within the broad framework of the following eight programs: institutional development; curriculum and materials development; research and development; training; information, education communication (IEC) and social advocacy; scholarship, facilities and equipment upgrading; and, policy development and upgrading. These programs are consistent with the integrative and holistic philosophy of environmental education (DENR-DECS, May 1992). To carry out the NEEAP program thrusts and components, forty-three projects were selected which include among others, the development of an Environmental Education (EE) curriculum framework, Environmental Impact Assessment (EIA) training for tertiary level faculty, EE for cultural communities and EE seminar for the media (DENR-DECS, May 1992).

Despite official recognition of the principles of sustainable development and substantial organized action undertaken by private organizations, public awareness on these issues remains limited to certain groups. Torres (1993) cites two surveys on various environmental issues which revealed that the group most aware of environmental issues tended to be the educated, higher socio-economic groups residing in urban areas. Secondary and tertiary school students were also among those aware of environmental concerns and those with access to media and other sources of information. The findings showed that environmental education and media campaign programs need to be geared towards the rural-based groups with lower socio-economic status. The manner in which the two surveys have been conducted however, needs to be reevaluated.

Soriano (1995) in her book, "Save Mother Earth: What Schools Can Do" asserts that saving the earth is about changing individual and societal values, attitudes, lifestyles and behavior so our own world can survive. To fulfill this goal, "schools should be transformed into environmentally responsible communities where environmental education is taught, appropriate values internalized and environmentally-friendly practices are made a way of life in campus" (p.10).

In another light, while exploring the historical foundations of the country's environmental problems, Rodriguez (1995) argues that environmental education in the Philippines must take into account the historical context of environmental degradation and address the shortcomings of the educational system. In his analysis, he claims that colonization has brought havoc on the natural, social and moral ecologies of the Filipinos. From this standpoint, he advocates two goals for environmental education: that it should aim to achieve political liberation by making it a medium of liberatory education and to challenge colonial beliefs that justify oppression and environmental degradation through the development of a critical consciousness among students and citizens. Adopting Freire's critical pedagogy, he expressed the view that critical consciousness is necessary in the transformation of the social context of education and therefore, demands that environmental educators become active agents of political change.

Since environmental care is one of the dimensions of peace education, Toh and Floresca-Cawagas (1987; 1989) underscored the need for environmental education in the peace-oriented curriculum to foster respect and concern for nature. The development of environmental awareness brings about a commitment towards building harmonious relationships between society and the environment and encourages citizens to participate in community-based projects geared towards the care and protection of the environment. More importantly, since environmental degradation is rooted in political, social and economic structures which pose constraints in the attainment of a peaceful society, a critical engagement with environmental issues should occupy a vital part of peace education

Consistent with peace education and global education, the ESD framework in this study adopts principles of social justice, spirituality, non-violence, cultural solidarity and ecological security and addresses issues that impinge on environment and development concerns. The framework, while adhering to a holistic approach in drawing content from various disciplines does not attempt to close its boundaries. Rather, it leaves the spaces open for further possibilities and opportunities to enrich and deepen its content base as well as its pedagogical process. It utilizes a variety of resources and strategies to achieve its goals. It promotes a dialogical and experiential approach hence, it encourages democratic participation as well as critical reflection. It does not ignore the historical, political, economic, social and cultural contexts and realities in developing understandings of issues. It nurtures ecological values and views interdependence as fundamental to an understanding of one's relationship with the environment and to all life. While it holds its own position, it does not render other positions insignificant. It considers other positions for possible alternatives after a thorough critique of their basic assumptions and theoretical foundations has been conducted. It is a process rather than a fixed goal. It is dynamic, not static. As it seeks to bring about change, it strives to foster empowerment and human agency in the process of transformation.

A version of this chapter has been published. Bernardino 1999. *International Journal of Curriculum and Instruction. 2:* 238-257.

CHAPTER THREE

RESEARCH STRATEGIES

Introduction

This chapter describes the research approach and strategies used to explore teachers' understandings of the theory and practice of ESD. It contains a brief discussion of the nature of qualitative research which guided the study and gives a brief overview of hermeneutics as a mode of inquiry. It also describes the research site, the selection of the research participants and the research strategies used to collect data These strategies include the use of conversations, in-depth interviews, participant observation and document analysis. The last part describes the mode of data presentation and analysis and responds to the criteria of validity, reliability and trustworthiness of the findings drawn from the study. It also presents the ethical considerations that guided the conduct of the research.

A Qualitative Research Approach

A qualitative research approach guided the overall conduct of the study. The nature of the research problem called for an approach that deviates from the "objective", quantifiable and positivist-oriented type because this kind of research does not go beyond a "surface" understanding of the phenomenon. A qualitative (sometimes labeled post-positivist or interpretive) research approach was deemed more appropriate, since it offers ways of "understanding social phenomena from the actor's own perspective and examining how the world is experienced" (Taylor & Bogdan, 1998, p. 3). It assumes that "features of the social environment are constructed as interpretations by individuals and that these interpretations tend to be transitory and situational" (Gall, Borg and Gall, 1996, p.3). As a research tool, qualitative research enables us to understand in a more holistic way, the meanings people have of their subjective realities and experiences. Research participants are considered active subjects who negotiate and interpret their realities through interactions with others and their social environment (Neuman, 1991). In this study, hermeneutic conversations constituted the main mode of inquiry. Other research strategies that were employed include in-depth interviews, participant observation and document analysis. In conducting the study, I, as researcher, endeavored to maximize the spaces and opportunities for the research participants to voice their stories with regard to the issues raised in this study.

The Conduct of the Study

The study consists of two parts. Part 1 covers the exploration of the meanings of SD and ESD using conversations as the central mode of inquiry. Part 2 looks into the implementation of ESD in the two participating institutions through in-depth interviews, participant observations and analysis of documents such as the institutions' vision-mission, course syllabi and other textual materials significant to the study.

Exploring Meanings of Sustainable Development (SD) and Education for Sustainable Development (ESD)

To explore teachers' understandings of the concept of SD and ESD, I employed hermeneutic conversations with a core of teacher participants in the study. As this study had been informed by hermeneutics as a mode of inquiry, a brief description of the insights and contributions of some thinkers in the field of hermeneutics that have significance to the research is presented

Adopting a Hermeneutic Mode of Inquiry

The first part of the study had been conducted by drawing insights from hermeneutic tradition. The research question, "How do teachers understand the concepts of SD and ESD? " pressed itself from the "negativity of experience" (Gadamer, 1988, p.325) that is, that I have perceived SD and ESD in the prevailing context to speak or manifest themselves in contradictions. Aware of the poverty and the environmental situation in the Philippines, the questioning emerged from a genuine desire to know how development can be sustainable. In the case of ESD, the questioning took the form of how teachers in the tertiary level understand ESD as it is revealed to them in practice. There was the felt need to "break open" the question posed by SD and ESD with the notion that through conversations and dialogue with my fellow Filipino teachers, we may uncover or bring to illumination what SD and ESD try to disclose. Guided by Gadamer's (1988) insistence of establishing the hermeneutic priority of the question (p.325), I attempted to bring a structure of openness in order to make sense of the question and to maintain that dialectic which reminds us that "in order to be able to ask, one must want to know which involves knowing that one does not know" (Gadamer, 1988, p.326). The recognition that our lives are implicated in historical traditions and that our ways of thinking and behaving are structured by our own historical-situatedness, experiences and realities has brought forth this interest in engaging in a collaborative process of re-searching into the meaning of SD and ESD. As well, it is in my conviction that educators' voices offer a legitimate alternative discourse for issues and concerns purporting to the carrying out of educational innovations and instituting change in the classroom and in the wider community, that a hermeneutic research mode was deemed appropriate and therefore, was adopted in the conduct of the study.

The Hermeneutic Tradition

Although many thinkers have contributed significantly to the field of hermeneutics, I have focused mainly on the philosophical hermeneutics of Gadamer whose theoretical insights bear significance to several aspects of the study. However, the challenges posed by other contemporary thinkers on Gadamer's ideas have also been very helpful in broadening my perspectives on how to carry out this mode of inquiry. I present below a brief review of the historical roots of hermeneutics and some elements of Gadamer's philosophical hermeneutics as well as some of the insights of other hermeneutic thinkers.

Hermeneutics has been defined in different ways. Because it is used in various contexts, several writers have alluded to a definitional ambiguity since it has been regarded as a theory, a philosophy, an approach, a methodology, a discipline, an art among others (Gallagher, 1992, p.3).The varied definitions seem to indicate that there are many unresolved theoretical issues or aporias in hermeneutics. A bit of clarification can be drawn however, from Grondin's(1990) explanation that scientific terms ending in *-ics* originally referred to a *techne* or an *episteme* while schools of thought are identified by _*isms.* Thus, the vagueness could be traced to the rather peculiar form of the term, "hermeneutics," originally conceived of as a discipline but has come to be regarded as a philosophical theory. The word "hermeneutics" is traced to the name of the Greek god, Hermes whose role is linked to the notion of bringing what is beyond human understanding to one that is familiar and could be grasped by human intelligence (Palmer, 1969; Smith, 1983; Mueller-Vollmer, 1989). In its broadest sense, hermeneutics is generally concerned with interpretation and understanding (Gallagher, 1992). In the interpretive process, language is a main and central feature.

Although hermeneutics could be traced to the time of Aristotle, its stirrings did not gain resonance until the sixteenth century during the period of reformation Interest in philology also gave rise to the development of modern hermeneutics (Mueller-Vollmer, 1989; Smith, 1994).The task of hermeneutics in those times was to look for the initial original meaning of the Biblical text and classic literature. The reformers developed a universal principle of textual understanding as a reaction to this Christian rendition of tradition. They believed that the Scriptures should be understood through a literal reading where individual parts must be understood in relation to the whole while an understanding of the whole can be achieved through the cumulative understanding of the parts (Teigas, 1995; Gadamer, 1988).

Schleiermacher who understood the direction of the Biblical and literary scholars employed his theory of general hermeneutics which focused on what consitutes the possibility of understanding. In his general hermeneutics, Schleiermacher believed that in interpretation, one needs to feel and participate in the same purposeful and creative spirit of the original writer which made the work possible. It was considered a "divinatory process" with the interpreter reaching the author as one immersed in that same creative endeavor and moved by a sense that these creations are understood by the readers. Understanding therefore, is made possible by taking into account the nature of purposeful action and the history of its creation. Every human production emerges not only in response to this creative spirit but also to fulfill its demands to be understood by others (Gadamer, 1988, Teigas, 1993; Smith, 1994).

As a reaction to the rise of positivist sciences in the nineteenth century, Wilhelm Dilthey attempted to bring about a human science which would restore the wholesome quality of human experience. Aware of the limitations of employing the objectivist methods in the study of human experience, he tried to distinguish between the concerns of the human sciences *Geisteswissenschaften* and the natural sciences. He asserted that human experience is understood while nature is explained. He referred to *Verstehen* or understanding as the method of the human sciences while *Eklaren* or explanation as the method of the natural sciences. From this distinction, Dilthey tried to resolve the objective/subjective dilemma by exploring understanding as a methodological concept originating in the process of human life (Smith, 1994).. His hermeneutic project revolved around experience *(Erlebnis)* and expression *(Ausdrak*). To Dilthey, the acquisition of historical knowledge starts with experience and the things that we understand are manifested in forms of expression usually through language (Teigas, 1995). Language serves as the medium that brings about a unity of meaning to a common world.

Dilthey's concept of *Erlebnis* (experience) takes an epistemological function as the natural sciences became a model for the human sciences. *Erlebnis* refers to lived experiences held together by a unity of meaning and is characterized by a temporality constituted by the horizon of past and future. This temporal context or historicality built into the structure of human experience serves as the horizon in interpretation which indicates that the present is understood only through the horizon of past and future (Palmer, 1969). In giving an epistemological justification to the knowledge of history, the primary data for the interpretation of history are regarded as units of meaning which can be reduced to ultimate units of consciousness. Thus as "life objectifies itself in structures of meaning, all understanding of meaning" involves a translating back of the objectivations of life to the 'spiritual livingness' from which they emerged" (Gadamer, 1988, p. 59). Interpretation and understanding (Verstehen) are part of the methodological procedure of the human and social sciences (Gallagher, 1992). However, in using the natural sciences as a model for the human sciences, a kind of alienation from the world of history is brought about as "the intellectual creation of the past, art and history are no longer automatically part of the present, but are objects of research, data from which a past can be made present" (Gadamer, 1988, p.58).

For Gadamer, Dilthey's project completes the aim of the Enlightenment but the objectivity of the natural sciences could not serve as the model of the human sciences. The subject-to-object epistemological relationship in the natural sciences would not work in the subject-to-subject relationship between the interpreter and the historical tradition in the human sciences because this would be disregarding the historical nature of experience. Dilthey's exploration of the nature of hermeneutic inquiry brought forth the notion of *Verstehen* or understanding human experience as the concern of the human sciences. Understanding as "the mental process by which we comprehend living human experience" (Palmer, 1969, p.115) is an ongoing process which is never completed. Understanding always involves a fore-knowledge of the object of interpretation and it is not merely a replication but a structural representation .

In response to Dilthey's contention that interpretation and understanding are part of the methodological procedure of the human and social sciences, Husserl explained that the problem that arises with this view is that, perception, a most fundamental conscious act, and all forms of consciousness which are founded on acts of perception, involves interpretation (Gallagher, 1992). His "Logical Investigations" was concerned with the conditions of meaningful discourse and the structure of those acts of consciousness which constitute an intentional experience. The coordination of intention and fulfillment of meaning brings about the unity of meaning such that every existing thing that has validity for a person has an " ideal universality of actual and potential experiencing modes of givenness...." (Gadamer, 1988, p.276). The unity of the flow of experience brought forth the idea of horizon intentionality in which what is given as existent in the world brings the world horizon in it. He introduced the phenomenological concept of the "life-world" where we find ourselves and conduct our lives. This life-world is "essentially related to subjectivity" and moves in " constant relativity of validity." (Gadamer, 1988, p. 218).

It was Heidegger who resolved the epistemological dilemmas of understanding by shifting to an ontological position. Heidegger asserted that understanding is not a fundamental epistemological question but "essentially a way of being, the way of being which belongs to human existence" (Gallagher, 1992, p.42). Human existence is constituted by being in the world. By being in the world, the world discloses itself to us. We understand the world because we are in it. Hence, understanding is basic to human existence. (Gadamer, 1988). It is the structure of being which makes understanding possible and interpretation is based on understanding.

Gadamer refers to hermeneutics as "above all, a practice, the art of understanding and of making something understood to someone else" (Gadamer, 1997, p. 17). To him, however, hermeneutics as praxis, does not propose a specific method for interpretation. The task is to find out the conditions for understanding to take place (Teigas, 1994; Gallagher, 1992). The following hermeneutic principles drawn from his book, "Truth and Method" (1988) have significance to the study:

Historicality of Understanding: Taking Heidegger's basic teaching of the fore-structure of understanding as a starting point, Gadamer elevated the historicality of understanding to an ontological position. In Heidegger's description of the hermeneutic circle, the interpretation of a text demands that the fore-structures be worked out through the things themselves. It is important to focus the gaze on the text as distractions are experienced through the process which was described thus:

> A person who is trying to understand a text is always performing an act of projection. He projects before himself a meaning for the text as a whole as soon as some initial meaning emerges in the text. Again the latter emerges only because he is reading the text with particular expectations in regard to a certain meaning. The working out of this fore-project, which is constantly revised in terms of what emerges as he penetrates into the meaning, is understanding what is there. (Gadamer, 1988, p.236)

Interpretations start with fore-conceptions which are constantly revised as other fore-conceptions emerge from those that were deemed less suitable until a unity of meaning is reached. This movement of understanding and interpretation comes with the use of new projections and this goes on with every new projection. The full potential of understanding is reached when in working these out, the fore-meanings used are not arbitrary. Hence in the process, the interpreter needs to examine the validity and origin of his/her own fore-meanings.

When one tries to understand a text, he/she anticipates that it is going to tell him/her something hence, a hermeneutic mind should be always sensitive to this quality of newness. This does not indicate making the text neutral nor the selves extinct but the assimilation of one's own foremeanings and prejudices. It is important to remember to be aware of one's own biases so that the text could present its own truth against the interpreter's fore-meanings.

The Hermeneutic Circle: Fundamentally, understanding moves in a circular pattern, from whole to parts and vice-versa. The cycle constantly expands since the concept of the whole is relative so that when it is positioned in a wider context, understanding of the parts is always affected. In traditional hermeneutics, there is a possibility of closure that is, of complete understanding. However, Gadamer, in bringing forth the idea of the fore-projections of meaning contends that there could never be any closure since every new projection brings a new interpretation (Gallagher, 1992).

Prejudices as Conditions of Understanding: Because of the discrediting of prejudice by the enlightenment, there is a need to rehabilitate the concept of prejudice and to recognize that there are legitimate prejudices. The emphasis of the enlightenment on reason has made authority subject to reason. When the prestige of authority is the source of all judgments, then it is a source of prejudices. But it can not be denied that it can also be a source of truth. The essence of authority however, is that it is not based on the subjection and abdication of reason but on recognition and knowledge. It is in the recognition that others have better understanding because they are more informed which makes one who is aware of his/her limitations accept that somebody's judgment or insight is superior to that of oneself and others.

Tradition has the same ambiguity as authority because its validity stands outside of rationality yet it conditions us without questioning it. To Gadamer (1997) however, tradition is "constantly an element of freedom and of history itself" (p. 250). The preservation of tradition is an act of reason, a freely-chosen action such as in revolution or change. Even in times of renewal, something of the old is retained which combines with the new to form a new value. So we stand always within tradition as it is always a part of us. How should understanding take place then in the human sciences with the presence of traditions? Gadamer (1988) thinks that understanding in the human sciences "shares one fundamental condition with the continuity of traditions, namely, that it lets itself be addressed by tradition" (p.251). Hence, the human sciences can not be described adequately in terms of the scientific idea of research and progress.

> Our historical consciousness is always filled with a variety of voices in which the echo of the past is heard. It is present only in the multifariousness of such voices: this constitutes the nature of the tradition in which we want to share and have a part. Modern historical research itself is not only research, but the transmission of tradition. We do not see it only in terms of the law of progress and verified results; in it too, we have, as it were, a new experience of history, whenever a new voice is heard in which the past echoes. (Gadamer, 1988, p.253)

Temporal Distance and Its Hermeneutic Significance: The concept of the hermeneutic circle set the task of interpretation as the reproduction of the original. However, this idea has been challenged considering the difference between the author and the interpreter due to the historical distance between them. Moreover, the concern is not on individuality but on the truth of what is said in a text.

The temporal distance that is involved in understanding a text of the past should not be considered a problem that must be overcome. While such distanciation involves objectification as the interpreter is confronted with something unfamiliar, it nevertheless, brings a kind of "tension" which enables the task of interpretation to move forward (Gallagher, 1992). Hence, it should be regarded as a possibility for a positive and more productive understanding since we must recognize the continuity of custom and tradition from the past to the present. Thus, it allows for the filtering of our false and true prejudices and enables something new to emerge. Temporal distance also enables the true meaning of the text to emerge fully since it also undergoes a constant movement and extension. However, the true meaning of a text is never finished because it is an infinite process (Gadamer, 1988; Gallagher, 1992).

Effective History: According to Gadamer (1988), to acquire an effective-historical consciousness is to be conscious of a hermeneutical situation which is a difficult task because we are always within it and throwing light on it is never completed. The problem lies in us as historical beings. The working out of a hermeneutical situation brings the idea of a horizon which refers to the standpoint that limits the possibility of vision. Historical understanding also involves having a particular historical horizon so we can see what we try to understand in a clearer way. Acquiring a horizon means learning to look beyond what is close at hand in order to see it more clearly within a larger whole. Thus, we speak of the "fusion of horizons" in the process of understanding. The projection of the historical horizon is an aspect of the process of understanding and the conscious act of this fusion is the task of effective historical consciousness.

Language as the Medium of Hermeneutical Experience: That all interpretation is linguistic is essentially drawn from our relation with traditions. It is in the manner of conversation that reflects our linguistic relations to tradition. In fact language is "the process of our communion with tradition" (Gallagher, 1992, p.104)

The interpretation of a text is carried out through language and in the manner of a conversation between the interpreter and the text. Understanding the text in this sense is not reconstructing how the text came to be but it is concerned with understanding the text itself. In the process, the interpreter's thoughts and fore-meanings come into play. The interpreter's horizon brings a possibility to bring a unity of meaning. This is considered as the "fusion of horizons" which takes place within language. The role of language in hermenutical understanding is a central element in hermeneutics in that the subject matter of the text is brought forward through the medium of language (Gadamer, 1988).

These hermeneutical principles drawn from Gadamer's philosophical hermeneutics guided the course of the conversations as a mode of exploring meanings and in interpreting the text of these conversations in the research study.

The Research Site

The Mindanao region in southern Philippines was chosen as the research locale in this study for several reasons. For many decades, Mindanao has served as one of the richest resource bases for the modernization and growth of the Philippines. In the process, the natural environment has been severely degraded. Furthermore, the current national government's vision of rapid industrialization by the year 2000 has put Mindanao as one of the priority areas for modernization serving as the southern corridor in the country's trade relations with Malaysia, Indonesia and other ASEAN countries. Several environmental NGOs have also been in the Mindanao region, working on ways to preserve the environment and to challenge ecologically destructive policies and activities. Finally, Mindanao is a very culturally diverse region with multiple ethnocultural communities including Muslims, Christians and the Lumads or indigenous tribes. Sustainable development issues and problems have affected the various communities in different ways and so the interesting dimension of intercultural relations was integrated in the study.

Two tertiary education institutions in Cotabato City, St. Mary's University and South Plains State College served as research sites. Cotabato City is a fast growing urban center where the icons of modernization like commercial complexes, entertainment centres and others have greatly expanded with the increasing population. Its rich natural resources such as its lush virgin forests had slowly been disappearing causing floods and siltation in the area (Nastura, 1976). It is against this ecological backdrop that I found Cotabato City a very appropriate setting for this study which attempted to bring into questioning the concept of sustainable development and education for sustainable development.

I had chosen St. Mary's University which is situated in Cotabato City as my research base because of its very active role in the formulation of the peace process in the region. I was very much convinced that the peace issue is very crucial to sustainable development and an institution that is very much involved in peace building would be very receptive to the idea of playing host to researchers whose interests fall on the same area. Likewise, my research supervisors, Dr. Toh Swee-Hin and Dr. Virginia Floresca-Cawagas, visiting professors from the University of Alberta have a long-standing and close association with SMU especially in the establishment of the Peace Education Centre and the Peace Education program and this greatly facilitated my entry to the research site. Furthermore, in their visits to the University of Alberta, the President and Vice-President of SMU had demonstrated their willingness to help me when I informally mentioned to them my research plans. Finally, being a well-established Catholic institution, SMU has better and more dependable communications facilities which could be used in any contingencies.

Entry to the Research Site

After being granted official permission by the President of SMU to conduct the study, I corresponded with the Vice-President for Academic Affairs (VPAA) to inform her of my research plans. With her assistance, I was able to seek consent from another institution, South Plains State College (SPSC), to take part in my study. Before this, she had written to two other institutions in the region about my research plans. There was no response from the first institution. Although the second institution responded to the request, when it was followed up with a telephone call, my initial meeting with a designated university head did not materialize because he had a commitment to attend to during the scheduled time. Furthermore, it was just too far from my research base so the inconvenience of going there prompted me to seek another institution, hence the choice of SPSC. The VPAA of SPSC expressed her willingness to assist me in facilitating the conduct of my research, after getting official permission from the President of the institution.

Identifying the Research Participants

To identify a core of research participants from the teachers in both institutions involved in the study, I constructed a survey questionnaire aimed primarily to gather information about the teachers' ESD background and experiences. A trial run was done in one of the private colleges in Cotabato City. Based on the results, a final form was designed and administered to the teachers of the participating institutions through the assistance of their VPAA. Upon retrieval, these were tallied and summarized. From the results, thirteen teacher participants were identified. Since the study was to a certain extent, collaborative, in my negotiations with the VPAA in each institution, an agreement was reached to involve more participants in the study than I had originally intended. We felt that adding two or three more would enrich the outcome of the research. The core participants in the study were chosen on the basis of their willingness to participate and the extent of their ESD background and experiences. Seven participants from different disciplines were identified from SMU. In the same process, six participants were also chosen from SPSC.

Orientation Meeting with Participants

Once the participants were identified, I sent a letter of introduction to each of them, enclosing a copy of my research questions. I also requested a meeting with them at their most convenient time to discuss the details of the research process. Since they had different schedules, I was able to meet with each of them at different times. In the first meeting, I expressed my thanks and appreciation for their willingness to collaborate in the research. I clarified with them that the research questions were not meant to constitute topics that they should read about or imposed on them. Rather, they were aimed at initiating the conversation to bring into questioning the concepts of "sustainable development" and "education for sustainable development" in order to explore how they understood them. I discussed briefly my research interest and brought out the idea of a collaborative process emphasizing that they are co-participants in the research. My initial meeting with each of them was an excellent opportunity to arrange our schedule of meetings. Most of them were very receptive to the idea of taking part in the research process, however, their hectic schedules stood in the way in arranging a regular schedule. To prevent schedule overlaps, I prepared a table indicating the date, time and place for each conversation session with the participants. This schedule was fairly tentative because as it turned out, other activities and circumstances hindered us from conducting the sessions as scheduled. Some adjustments had to be made in order not to disrupt the participants' schedule of activities.

The Research Participants

A total of thirteen teachers, seven from Saint Mary's University and six from South Plains State College participated in the study. Most of the participants have attended seminars or training on environmental care and have participated in environmental activities organized by their schools or respective communities. The participants in the conversations were:

1. Jerry - teaches Philosophy, Religious Studies, Peace Education and English; has conducted workshops on environmental care to teachers in the region.

2. Alex - has administrative duties aside from teaching Economics and Political Science; has attended a number of training on environment and development issues.

3. Fatima - teaches Nursing Research; participated in a crash course in Peace Education

4. Estela - teaches Communication Arts (English) and Literature; has been involved in a proposed collaborative research project on sustainable development between their institution and a foreign university

5. Kris - teaches Science courses like Biology, Zoology and Natural Science; has attended the Peace Education training program in their institution

6. Jenny - has administrative duties aside from teaching Environmental Science and Engineering courses; has attended seminars in Peace Education and has been involved in some environmental care activities coordinated by the DENR

7. Teresa - teaches general education and professional education courses; has been engaged in environmental care activities as a school and community leader

8. Arlene - has guidance coordinating duties aside from teaching Filipino and Guidance; has attended seminars and workshops on environmental education

9. Tina - teaches Communication Arts (English) and Speech courses; had opportunities to discuss sustainable development as a topic in one of the courses in her doctoral program

10. Bernie - has administrative duties aside from teaching Physics and engineering courses; has participated in environmental care activities in their school

11. Sarah - has administrative duties aside from teaching agriculture courses; has attended seminars and training on sustainable development

12. Joyce - teaches Food Microbiology; has climbed Mt. Apo twice and has attended seminars and workshops on environmental care

13. Ali - has administrative duties aside from teaching forestry courses; has attended seminars and training on sustainable development

Conversations as a Research Strategy

The major data collection method that was employed in this study is the use of conversations based on hermeneutic inquiry. The hermeneutic contribution to contemporary social theory and practice is focused on how meaning is arrived at referentially and relationally. The manner of hermeneutic inquiry has more of the character of conversation where there is a certain degree of displacing the self so that the truth that is realized is shared by the participants.

Gadamer (1988) asserts that: 'conversation is a process of coming to an understanding" (p.185). Those involved in genuine conversation share a common goal which is to bring to illumination the topic of conversation. It is the topic of conversation which holds the participants together and which sustains the conversation itself.

The search for understanding is carried out through hermeneutic questioning which is reflective of a genuine desire to know. Hermeneutic inquiry begins with an attempt to understand the question itself which arises out of the negativity of experience. Hence, the emphasis on the "hermeneutic priority of the question" (Gadamer, 1988, p.325). The questioning comes with the realization that an idea does not fit in with preconceived opinion. Because of the nature of hermeneutic inquiry, research based on philosophical hermeneutics, takes a different approach to instituting educational change (Carson, 1986)

Conversations, according to Feldman (1999) has long been regarded as a method of research as demonstrated in the cooperative conversations of scientists while working out a new idea or as used in interviews and participant observations in collecting and analyzing data. In action research, conversations among teachers had been shown to be an effective research methodology in the process of drawing out meanings from their shared knowledge and experiences.

The Conversation Sessions

Conversations with the research participants were carried out over a period between August to November 1996. In SMU, the VPAA kindly offered the room adjacent to her office which was mainly used for faculty discussions, for my conversation sessions with the participants. In SPSC, we used any of the vacant classrooms or the participants' offices.

Adopting Carson's (1985, p.70) stages of conversational research and guiding principles, I entered into a series of three conversations with each of the thirteen participants in the study. These conversations were audiotaped and transcribed for interpretation and analysis. The first stage was the initiation of conversation where I introduced my research to the participants, came to know them and their experiences. The second stage involved the actual conduct of the research. Observing the guiding principles and drawing also from my own understanding of hermeneutics, I sought to focus on the "hermeneutic priority of the question" (Gadamer, 1988 p.325) and to establish and maintain an openness toward the concept of SD and ESD. By being mindful of the question, the conversations moved forward since "the sense of the question is the direction in which alone the answer can be given if it is to be meaningful." (Gadamer, 1988 p. 326).

The conversations were carried out in English with occasional shifting in Filipino. This is a typical communication situation for the participants who teach in English, as it is the medium of instruction in the tertiary level. At the same time, they are also conversant in Filipino which is the national language. The use of both languages not only brought a relaxed atmosphere to the conversations but also made it possible to capture the essence or the nuances and shades of meaning of what were being conveyed arising from their particular cultural context. After each conversation, I identified the topics and outlined my interpretation of how the conversation spoke to the meaning of SD/ESD. Based on the previous conversations, other questions emerged which were related to sustainable development such as environmental care, human rights, foreign investments and more. These were presented to the research participant before we proceeded to our next conversation session. This was a form of validation for what we brought into the conversation and this was very much appreciated by the participants as it afforded them the opportunity to clarify some aspects which seemed ambiguous and to add what they had forgotten or failed to include.

A further interpretation of the meaning of SD/ESD as brought forth through the conversations constituted the final stage. From the transcripts of the conversations, I had with each individual participant, I drew themes that were related to SD and ESD. Some of the themes include issues of peace, poverty, justice and others for sustainable development and integration of values, pedagogical strategies, resource materials, on the concept of ESD. From an interpretation of the themes drawn from the texts of each individual conversations, I have also attempted to make a synthesis of the participants' observations and experiences on the theory and practice of SD and ESD. These are presented at the end of Chapter Four and Chapter Five. A brief summary of these reflections is presented in Chapter 7.

Throughout the conversations, I have attempted to foster a climate that hinges on a process of coming to an understanding of ourselves as collaborators in this activity of critical reflection. This objective was driven by a desire to bring into light the preconceptions that typically surround our ways of perceiving our experiences and realities so that we can achieve a kind of emancipation from forces that tend to cloud our own interpretations of issues and our practices as educators. In our quest to understand SD and ESD, something about us is revealed. In the words of Smith (1994), "The aim of interpretation, it could be said, is not just another interpretation but human freedom, which finds its light, identity and dignity in those few brief moments when one's lived burdens can be shown to have their sources in too limited a view of things (p.189).

The Implementation of ESD

To explore how ESD was being implemented in the two institutions involved in the study, I employed the following strategies: in-depth interviews, participant observations and document analysis. A brief description of the steps that were followed under each strategy is presented below:

In-depth Interviews

As a research tool, in-depth interviews offer a means of understanding informants' perspectives of their realities and experiences expressed in their own voices (Taylor & Bogdan, 1998; Bogdan and Biklen, 1992). As "a special instance of human dialogue" (Weber, 1986, p.67), the qualitative interview often takes the form of a conversation between "equals" or "friends" (Bogdan & Bilken, 1992; Taylor & Bogdan, 1998).

The purpose of interviewing is to find out from interviewees things that cannot be directly observed. According to Patton, (1990), there are basic approaches to collecting qualitative data through unstructured interviews. In this study, the general interview guide approach was adopted. The general interview guide is specially useful in that "it provides topics or subject areas within which the interviewer is free to explore, probe and ask questions that will elucidate and illuminate that particular subject" (Patton, 1990, p.283).

I conducted in-depth interviews with several people involved in the planning and implementation of ESD programs, projects and initiatives such as the Vice-President for Academic Affairs, student leaders and representatives from NGOs, church and the media who have established linkages with the participating institutions. Interviews were also made with one barangay chairperson as well as the training officer in charge of community development programs in the university. Identification of possible interviewees and contacting them to seek their consent were made possible through the help of people whom I met and got acquainted with in the research setting. Once I gained their consent to be interviewed, I worked out a schedule with them. I prepared key questions before the interviews and expressed them in ways that would fit into the interviewee's context. These were open-ended questions and were focused mainly on the practice of ESD in the participating institutions. The interviews were audiotaped and transcribed for analysis and interpretation.

Participant Observations

Directly participating and observing the events that take place in a particular research setting enables one to describe the activities that took place, the people, the interactions as well as features of the physical setting that sometimes tend to be overlooked or ignored. It is a way of getting first-hand information which could aid in gaining a better understanding and interpretation of the phenomenon (Patton, 1990). As I lived very near the SMU campus throughout the duration of my data collection, I was a participant as well as an observer of the daily events that took place in the research setting. This situation places the researcher in a process of participation and involvement where she is able to interact with the people and the physical setting (Howard, 1985). Living within the research setting made it easier for me to get the feel of being a part of the community since it enabled me to observe the daily routine and the unfolding of political events as well as to participate in some of the social, cultural and religious activities.

Upon my arrival in the research site, I went around the campus and talked informally with the people to establish rapport. I recorded my observations and description of the physical setting in a journal. As I came to know my co-research participants, other teachers, staff and students, I tried to spend some time with them whenever possible, whether at the library, cafeteria or just outside the campus gate waiting for a ride. In these informal situations I made it a point to focus my observation on something that was significant to my research objective and then to write a brief account of the experience with my reflection notes.

I visited and observed a few classes in both participating institutions, SMU and SPSC after having sought permission and arranged a schedule with the teacher participants. I prepared a simple outline of the significant points I needed to look into to serve as a guide in doing my observations. Observation and participation notes were written immediately after each visit. These notes were particularly useful in my analysis of how ESD was integrated by teachers in their lessons.

Document Analysis

Textual materials such as the national ESD policies, the vision-mission of each participating institution, the curricular programs, the course syllabi and resource materials of teachers were examined and analyzed by looking into their ESD content. The institutional policies and goals were also analyzed in terms of how they reflect national ESD policies and goals. Likewise, the ESD content was further analyzed with reference to insights reflected in ESD literature.

Data Presentation and Interpretation

To analyze the data gathered through the conversation sessions, I went over the transcripts of my taped conversations with the research participants. I identified topics that we discussed and classified these topics into broader categories. These categories were again organized around SD and ESD themes. The data presentation has been organized around each individual participant in terms of themes. The process of interpretation is interwoven in the presentation of data as this has been part of the process of conversation. From the insights that were disclosed through interpretive analysis, I brought forth my own reflections drawing support from secondary literature to present a synthesis of what SD and ESD mean to the teacher participants in the study.

Since the interviews that I conducted with other informants were primarily designed to gather data on several areas of SD and ESD, I listed some themes that are relevant to the teaching of ESD. Going through the interview transcripts, I identified patterns or themes emerging from the data (Berg, 1995) and organized them into broad categories. Since I used the interview guide approach, I cross-checked the themes that emerged from the transcripts with the themes in the interview guide (Patton, 1990). This enabled me to link related data from different interviewees. I grouped them under one theme and marked them with accompanying interpretive notes.

From my journal, I focused on the observation notes on my visits to a few classes in the two institutions. I highlighted those aspects that dealt with the integration of ESD. I integrated my observation notes on the activities, events and features of the physical setting with information drawn from the interviews and the conversations I had with the teacher participants.

Textual materials like the course syllabi and books and other reading articles were analyzed according to ESD content or themes. Likewise, the vision-mission of each participating institution was analyzed in relation to national policies and goals as well as with reference to insights from the emergent literature on sustainability.

Data Validation

According to Patton (1990), the credibility issue for qualitative inquiry depends on three inquiry elements: rigorous techniques and methods, credibility of the researcher and belief in the phenomenological paradigm. To enhance the validity and credibility of the data and the analysis, triangulation of data sources was employed. Triangulation is the process used to check the data generated by the interviews against the data collected through participant observation and document analysis. It is a means of "cross-checking the consistency of information derived at different times and by different means within qualitative methods" (Patton, 1990, p.467).

The credibility issue was also addressed through prolonged engagement and persistent observations (Lincoln & Guba, 1985). I lived in the research site for about five months so I spent sufficient time to participate in the activities and observe the lived realities of the research participants.

The trustworthiness of the data is linked to the trustworthiness of the researcher who collects data and analyzes it. Since it has been the claim of many scholars that there is no such thing as a "value-neutral" research (Lather, 1986, p.63) because every researcher brings preconceptions and his/her own interpretations to the research, I engaged in a process of self-reflection on my subjectivity and biases and tried to maintain an atmosphere of openness. This was a way of achieving "objective subjectivity" (Lather, 1986, p.76) and to respond to the issue of trustworthiness.

Hermeneutics as a mode of research inquiry has been confronted with the issue of relativism.. Relativism refers to the doctrine that all opinions on a subject are equally good. However, there are always justifications as to why an opinion is preferred over another. In hermeneutics, only those with an established foundational conception of what truth or interpretation should be are relativists. It has been also claimed that relativism can only be considered if one presupposes an absolutist point of view because relativism only resides in the acknowledgement of an absolute truth. With the experience of human finitude as the ground for philosophical hermeneutics, the question of the claim to an absolute truth arises. To cast off an absolutist point of view is to recognize the fallibility of our views. A recognition of human finitude and our historical-situatedness brings us to engage in dialogue not in the sense of seeking an absolute truth but, through open communication, allows us to adopt perspectives that are more enlightening for us but which could be replaced with the emergence of a more convincing idea. (Grondin,1990).

Ethical Considerations

In line with the University of Alberta ethical guidelines, I saw to it that the teacher participants in the study were assured of their anonymity and the protection of their privacy. After introducing my research interest and orienting them on the nature and purpose of the study, the teacher participants expressed their willingness to be involved in the study. Before I asked them to sign a written consent, I explained to them their rights as participants, that they can withdraw from the study or may not answer questions if they choose to do so. I have used pseudonyms for the participants and changed the names of the participating institutions to protect their identities.

Aware that the research context is reflective of cultural diversity, I tried to be sensitive to moods and practices in relating with research participants. My being a Filipino and my familiarity with the national language and Filipino traditions greatly facilitated such cultural interactions. Because of my commitment to a research orientation that considers North-South relationships although I came from the North to conduct the research, I brought forth the notion that we were all participants in a collaborative process. Hence, I welcomed and expressed appreciation for their suggestions with regards to the conduct of the research and likewise, for their participation in the study.

CHAPTER FOUR

THE CONCEPT OF SUSTAINABLE DEVELOPMENT

Introduction

This chapter presents an interpretation of the thirteen teacher participants' understandings of the concept of sustainable development. The teachers were from two tertiary institutions in Cotabato City, St. Mary's University and South Plains State College. These understandings were drawn from a series of three conversations each that I had with them over a period between August to November 1996.

Several themes emerged as our conversations progressed from our discussion of environmental problems and the course of national and local development programs to educational policies, practices and problems. Some fundamental questions gave rise to related issues or themes which set the conversations to move forward and to branch out to the various dimensions of sustainable development. How do you assess the environmental situation in Mindanao? What is your view of the national government's vision of attaining rapid industrialization by the year 2000? In several instances, the development question was linked to current issues that served as focal points which, in a way, also heightened the interest of the participants since the subject of the conversations was seen in more practical and concrete terms.

As we proceeded from one conversation session to the next, the themes that were identified from the previous conversations were brought out for clarification and further discussion. Interpretation of these themes were either confirmed or modified and continuously re-shaped as we took off from the preceding session and touched on more issues that brought forth other related themes. Thus, the participants' meanings of sustainable development and education for sustainable development were interpreted as we moved on from one conversation to the next.

The themes presented in this chapter evolved from an analysis of the transcripts of the conversations which also reflected the interpretations made in the process. I have presented a thematic analysis of my conversation with the individual participants in the study. In the process, the participant's professional and experiential background is briefly included when its inclusion is necessary to provide the context for the themes that have emerged. Table 1 shows a summary of the themes that were identified from the conversations made with each participant.

Table 1. The Participants and the Different Themes

PARTICIPANTS	THEMES
JERRY	1. Some contradictions in the term SD and the WCED definition 2. Development and environment intertwined in SD 3. The issue of poverty as the cause and consequence of environmental degradation 4. Development projects and human rights 5. Foreign investments and SD
ALEX	1. The various dimensions of SD: economic, ecological, social and political 2. Trade-offs and enforcement of environmental protection laws 3. Poverty and the lopsided North-South relationship 4. Attaining NIChood and the state of the environment
FATIMA	1. Environmental scenarios and health concerns 2. Development and the rural -urban divide 3. The modernization paradigm of development 4. The elements of SD: equity, appropriateness of technology, respect for human rights and the promotion of environmental preservation 5. Values and leadership in SD

PARTICIPANT	THEMES
ESTELA	1. Environmental care, intergenerational responsibility and valuing of humanity as aspects of SD 2. Foreign investments and the exploitation of resources 3. Government, media and people's awareness of environmental issues
KRIS	1. Balance and the preservation of life 2. Development projects, resources and human rights 3. Political leadership and SD
JENNY	1. Resources and poverty 2. Indolence and indifference as well as corrupt practices as hindrances to development or progress 3. Individual responsibility and environmental problems
TERESA	1. Environmental concerns and what citizens can do 2. The need for a strong agricultural base and SD 3. SD and self-sufficiency 4. Technology and SD
ARLENE	1. SD as an old concept 2. Development for all 3. Raising people's consciousness
TINA	1. The environment-development dilemma 2. SD and the alleviation of the plight of the poor 3. Filipino values and SD
BERNIE	1. Environmental problems and the needs of the future 2. Corruption, justice and development problems
SARAH	1. The preservation of resources and SD 2. Environmental problems arising from the city's rapid growth
JOYCE	1. Nature as God's gift 2. Valuing the country's resources
ALI	1. People and resources as partners in SD 2. Political leadership with a strong religious/moral base as the key to SD 3. Peace as a major element in SD

JERRY

Jerry joined the teaching staff of Saint Mary's University ten years ago and since then, has been teaching Philosophy, Religious Studies, Peace Education and English. The courses he has taken in the Peace and Development Education graduate program, particularly on Environmental Care have provided him with an adequate background and kindled his interest in the area of sustainable development.

As a teacher of Peace Education, Jerry includes sustainable development as a topic in Environmental Care, one of the units in the course. He revealed that he was attracted to Peace Education because of "its broad treatment of any subject matter and its holistic approach." Committed to the development of environmental awareness, Jerry has conducted many seminar-workshops on Environmental Care to teachers from the various institutions in Mindanao.

Throughout the course of our conversations, I noticed that Jerry always situated his ideas in context which I fully appreciated because it afforded me the opportunity to familiarize myself with the Mindanao region in terms of its physical structure, its history, the people and their culture. I complemented this with parallel cases on the global front. I also attempted to make the flow of ideas more relaxed and open by dwelling more on his experiences. As a consequence, more issues seemed to have emerged so naturally and spontaneously. I realized however, that after sharing our own views, we ended going back to our original question: How can development be sustainable?

I have identified the following five (5) major themes in the course of my conversations with Jerry about the meaning of sustainable development:

1. Some contradictions in the term *sustainable development* and the WCED (World Conference on Environment and Development) definition

2. Development and environment intertwined in sustainable development.

3. The issue of poverty as the cause and consequence of environmental degradation

4. Development projects and human rights

5. Foreign investments and sustainable development

Theme 1: *Some contradictions in the term sustainable development and the WCED definition*

Quoting the definition of sustainable development from the Brundtland Report (1987), Jerry confessed he did not like the term, "sustainable development." The Brundtland Report has defined it as "development that meets the needs of the present without compromising the ability of future generations to meet their needs" (p.43). Although Jerry admitted he did not know the reason why, except that it seemed like "some kind of a negative concept" to him, he made some attempts to explain it. He presented his understanding of the word "sustainable" as "something you have to withstand or keep on doing."

Jerry's dilemma with the term *sustainable development* is understandable. As a language teacher, he could readily see the contradiction embedded in the two words. Although he admitted he did not know why he disliked the term, it was apparent that it was because the words did not seem to cohere. His definition of the word "sustainable" reflected Redclift's (1993) explanation that the word has positive and negative strands. This brings a double-edged connotation which constituted Jerry's dilemma.

Jerry insisted that sustainable development is a good concept but he finds it wanting in some aspects. He was referring to the concept of sustainable development as defined by the World Commission on Environment and Development (WCED) or the Brundtland Commission which he had earlier quoted. He also pointed out that sustainable development is more than environmental care because "we can care for the environment but it is possible that we think only of ourselves and do not think of the future."

Theme 2: *Development and environment intertwined in sustainable development*

While explaining further his concept of sustainable development, Jerry argued that the law of nature is a law of multiplication and not of attrition or diminishing returns. He elaborated on this by presenting rice as an example: "When you plant the seed, not only will it grow one stalk but there will be five or ten stalks and these stalks will produce plenty of grains. That's nature's way."

He firmly held on to the belief that if we leave nature to its own course, it will take care of itself. He asserted, "My concept is like the Taoist concept of flowing with nature. If we flow with the course of nature, we will bring ourselves progress and at the same time, nature is enhanced."

This philosophy constituted the overarching theme of Jerry's views about the environment. This was reflected in his assertions on the environment-development issue. He was strongly convinced about the need for development which he sees essentially as industrialization in this age of technological advances in communication. As he put it, "We have to develop but we can not destroy the environment. So my concept is... as we develop, we enhance the environment." He justified his stand by citing what he referred to as another kind of development,

> *...wherein you destroy the environment. For example, logging. You cut the logs, you export them, you get the dollars, you go into projects but in the process, you cut the logs in the forest and destroy the environment. But that's not nature's way. Nature's way is to enhance.*

Jerry pinned the cause of this kind of development to the lack of knowledge on how to manage the resources very well. He claimed that, "we don't have much knowledge really on the development that enhances our natural resources instead of destroying them."

He maintained that the indigenous people know this concept of "leaving nature to its own course so it will take care of itself." He cited the case of the highlanders such as the T'bolis, Manobos, Tirurays, Bilaans and Tagabilis who had been practising slash and burn agriculture for many years. When the soil loses its fertility "they abandon the place and move to another area." This movement to another area is their way of leaving nature to its own course so that the land will regain its fertility and productivity.

The commonly-held notion that a tension exists in the relationship between the environment and development was something that Jerry wanted to debunk. Aware of the either/or development/environment dilemma, he strongly opposed such an idea.

> *So it's not good to say that once we develop, we destroy nature. Some people say we need to sacrifice either development or environment. But I don't think they are contradictory. We can harmonize them in such a way that as we develop industrially and technologically, we also enhance our environment. For after all, the roots of what we develop are in the environment.*

Theme 3: *The issue of poverty as the cause and consequence of environmental degradation*

In our first conversation, Jerry related his experiences while conducting workshops on environmental care to teachers from various educational institutions in Mindanao. His views on sustainable development were embedded in his narration of how he came to conduct the workshops, the materials he used and how he viewed their impact. When I asked about the participants' reactions after the workshop, Jerry expressed his dismay that while the workshop had raised the consciousness of the participants in terms of the value of environmental care, this did not seem to progress to a deeper level of collective action. He lamented that these did not fully empower the participants to make the necessary transformation.

> *Generally they answered the questions well but, as usual, there was no follow-up. They saw the need, they saw what could be done but they stopped there. Maybe they planted some trees and maybe they told their students that these things were happening but beyond that, there was no concerted effort really to follow-up what the lessons taught us in the slide presentation.*

In these seminar-workshops, he made use of a slide presentation which depicts the story of Sidro. He got this kit from a priest, Fr. Vincent Bush who is based in Ozamis City and whom he had invited to conduct a seminar at St. Mary's University. "The Story of Sidro" had been an instant hit so Jerry took the cue from Fr. Vincent Bush and made use of the kit in their seminar-workshops.

The plot of "The Story of Sidro" as summarized to me by Jerry is representative of a typical Filipino narrative which combines the elements of religious and folk tradition and culture and uses a language that strikes at the very core of Filipino sentiment and emotion. It is a poignant piece which has the power to touch the great majority of Filipino audiences. As the story revolved around the problem of poverty, our conversation shifted to its links with environmental degradation as had been brought forth during our discussion of "The Story of Sidro." Jerry explained:

> *They could see that... forest denudation for example. They could link that to the abuse of power by the government, abuse of power by the TNCs, illegal logging, and others, They were able to see that it is not some people who are using "kaingin" and who are cutting the trees for firewood. They saw that it is a concerted effort of big firms bigger than themselves who are out and out to destroy the environment. So, they see this...*

Jerry had implied that development rests on the condition of our resources when he said that "the roots of what we develop are in the environment." The issue of poverty and resource depletion was brought back in our second conversation session. Environmental degradation has been often blamed on the poor "kaingeros" who burn the forests or the poor fisherfolk who engage in the use of dynamite or cyanide or "muro-ami" fishing. In the seminar-workshop, the participants viewed it as more of the activities of the big corporations. Jerry clarified this point:

> *I hold the view that the poor should not only be held responsible for the degradation of the environment. For example, the Tagabilis or Tibolis may be poor but what they do is use 'slash and burn' agriculture but after a while, after two or three years, when the soil loses its fertility, they abandon the place and move to another area. But recently, they are no longer allowed to move to other places because the TNCs especially Dole Philippines, the producer of Dole pineapple has encroached into their territory. So it's not really a question of poverty.*

For Jerry, in the case of the depletion of our coastal water and marine resources by fishermen who use dynamite in the process, it is also important to look into the reasons why the fishermen are no longer catching the quantity of fish they used to catch before.

> *When we look into the causes, it's because of the pesticide...the poison that has been dislodged in the ricefields, which, when flooded, the water would flow into the river and to the city. Another cause is the big companies... the trawlers from Japan, Taiwan, Thailand that invade the territories of the Philippines. I think it's not only poverty. Maybe it's a factor that pushes some people to some unsustainable ways of maintaining themselves...*

He expressed the view that the depletion of resources is due to the lack of awareness and management know-how.

> *But I think the primary reason is the lack of knowledge that our resources, unless managed very well, are not brought to a level of enhancement. We don't have much knowledge really on the development that enhances our natural resources instead of destroying them.*

We focused our conversation to the popularly-held notion of development as being equated with economic growth and measured in terms of the Gross National Product (GNP) or Gross Domestic Product (GDP). This was related to a recent announcement from the leading dailies that the Philippines had posted a 7.1% rate of growth during the second quarter of 1996 which has been regarded as a dramatic turnaround. I posed another set of questions: Has there really been an improvement in the living conditions of the majority of the people? How about the gap between the rich and the poor? Has this been narrowed down?

Theme 4: *Development projects and human rights*

The questions concerning the causes of poverty led us to reflect on the effects of a controversial development project in the Mindanao region, the Mt. Apo Geothermal Plant of the Philippine National Oil Corporation (PNOC) designed to generate electric power in the area. Mt. Apo is a dormant volcano and is home to tribal highlanders like the Manobos and Bagobos.

Narrating the events that took place during the drilling of the geothermal wells, Jerry highlighted the environmental destruction that came as a consequence of the development project. He called it a human rights violation against the indigenous people in the area. He also expressed his concerns about the environmental hazards the drilling operations have caused in the area.

> *Based on our observations, when we went to the site of these geothermal wells, it seems that they have really destroyed the mountains. For example, when they bore into the earth, the holes which would push up the steam and allow it to go through the pipes and force it to go to the turbine, they had to use poisonous materials to make some kind of support for the hard substances. And the poisonous materials are just left there and when these are dislodged, they flow into the river. There was some kind of arsenic that affected the water. We have observed also that the trees around the plant have been destroyed.*

When opposition to a project is carried out through protest demonstrations, armed men are often hired to provide security and to guard the construction site. Jerry described this strategy as employed also by PNOC. Interestingly, the Manobos and Bagobos were used by the agency to guard the area. They were exploited and manipulated to turn against their own people.

Another perhaps more important reason for the opposition of the tribal people and even the church to the project is that Mount Apo is regarded as a sacred place. The project did not only displace the people who have lived there but also undermined the people's culture and values, a clear violation of human rights. Jerry made his own analysis of the situation:

> *When you make a hole into this mountain, it is like boring a hole in the cathedrals and it is really desecrating a sacred place. And because it is desecrating a sacred place, it overturns the indigenous values of the people. So it doesn't matter whether it will produce electricity, whether it will produce power or if it really minimizes the cost of the power consumption of the people. The question is: Are we going to continue desecrating the place and incur the ire of the spirit of the gods?*

Moreover, Jerry was skeptical about the benefits of the geothermal plant:

> *At present, it is now operational but I really do not know how much is produced by this geothermal plant, whether it is helping out in the overall distribution of energy and making the energy cost lower. But at present, the energy cost is rising and rising and it seems that the geothermal plant is not the solution to the problem.*

To counteract possible expansion moves by the PNOC, Jerry strongly advocated for vigilance and active participation among the people. We both believed that more voices will certainly make the corporation stop or abandon the project or to transfer to another source. Passivity and complacency will allow it to continue its disregard for the environment and correspondingly, the people involved in the process.

Our discussion of the Mt. Apo geothermal plant project provided more insights into the concept of sustainable development. Viewed in the more immediate context, development could not just be equated with industrialization. Reflecting on the various issues, we realized several dimensions come into play. Supposed poverty alleviation strategies in the form of development projects need to be examined closely since the attempt to solve the problem might serve as another instrument to actually violate human rights, undermine indigenous culture and degrade the people's quality of life.

Theme 5: *Foreign investments and sustainable development*

The events that had been unfolding in the Mindanao region at the time of data collection such as the ARMM (Autonomous Region of Muslim Mindanao) elections and the Peace Accord being forged by the Government of the Philippines and the MNLF (Moro National Liberation Front), a major Muslim rebel group, inevitably brought the government's development programs into our conversation. On the national government's vision of rapid industrialization by the year 2000, Jerry expressed his discomfort over officialdom's vigorous effort to attract foreign investors into the country. He declared the government's preoccupation with attaining NIChood at the turn of the century an unwise move. He explained the pitfalls of embarking on a rapid industialization scheme before establishing a solid agricultural base.

> *The government is very strong in pushing for "Philippines 2000" especially in inviting investors in places like Zamboanga and General Santos City. If there is no solid base, I mean if people continue to be hungry, to be exploited, to be sick and neglected, I think we will not be progressing very well. We will be experiencing what the Thailanders have experienced. Only a few people in some sectors experienced the benefits of the economic boom while the rest suffered and many women became prostitutes. I think this may happen to us because I see the agricultural base has to be established very well.*

He argued that he is not against foreign investments in itself.

> *Foreign investments should be geared towards developing the agricultural base. What are really needed are feeder roads so that farmers can bring their produce to the market and escape being victims of middlemen. So I think we need a sound agricultural base rather than investments to put up factories that manufacture electronic materials while at the same time, people are hungry. Otherwise, the dream of Philippines 2000 is only for some people and just a nightmare for others.*

The goal of becoming a NIC by the year 2000 has become the focus of national attention as slogans of Philippines 2000 continue to mushroom atop public school buildings and billboards in the area. Jerry was deeply concerned that the government was attracting foreign investors into the country in line with its development plan. Jerry decried how the unsustainable practices of the TNCs in Gen. Santos City, which has become the hub of foreign-based corporations in the South, have caused the environmental degradation in the area. According to him, the soil erosion and siltation that followed every flash flood have stunted the growth of plankton which starts the food chain in the ecosystem. This could spell the survival or death of all aquatic life forms which would eventually affect the lives of people dependent on these resources for their livelihood.

As a rejoinder to Jerry's concerns, I put the issue into the context of the Asian Dragons. To replicate the development model of our Southeast Asian neighbors was for Jerry, a splendid idea. A caveat however, could be inferred from Bello and Rosenfield's (1990) analysis of the "dragons now in distress." The multitude of environmental problems and human rights struggles in these countries indicates that the prosperity enjoyed by them has not guaranteed that level of sustainability that is expected to go with it. Likewise, while the President's pronouncements of the Philippines becoming a "green tiger" is very comforting, from all indications, it is clear that this kind of development will greatly impact on the environment.

Jerry also found out that in the inlands like Marbel which has become a trading place, the rapid increase of vehicles as well as gadgets and appliances that still run on gas, has contributed to the destruction of the environment. He claimed that the gas emissions cause pollution and atmospheric disturbances that lead to global warming. In addition, Jerry agreed that cell phones which seemed to have become a status symbol also pose a danger to people's health due to radiation.

Jerry deplored the idea of giving tax privileges to foreign investors especially because they often fail to adopt safety measures to prevent environmental destruction.

> *I think it is not really a wise idea to invite foreign investors and give them tax privileges. They do not check on the environmental hazards they cause to the people so it's not very wise to just invite them and open our arms to everything these foreign investors are trying to do in our place.*

As we pondered on the effects of foreign investments on development, I tried to view it from another perspective. How have these foreign businesses affected the everyday lives of Filipinos? Based on our observations of the consumption habits and practices of the people, it is easy to see the successful strategy of these foreign-based business firms to impose their tastes and preferences on the Filipino consumer who is just too eager to become part of the in-crowd by sporting their brand-name goods. Likewise, from another viewpoint, Jerry informed me that they are now importing corn, a possible effect of the conversion of agricultural lands to industrial zones. This could have also stemmed from the fact that agricultural lands have been used for agribusiness which engages in monocropping of export cash crops. The food supply is adversely affected as a result of the decrease in lands used for agricultural production of staple crops like rice and corn.

Our discussion has led us back to our original problem of how development could be sustainable. In a situation where foreign investments form a powerful block in a poor country's fledgling economy, it seems difficult to conceive that with the power often assumed by foreign-controlled business firms, the environment as well as the life of the poor majority could be part of their business agenda. We both were of the opinion that this development strategy would need a more critical examination since the projected benefits may just be overblown to obscure the realities of environmental degradation, poverty and the violation of human rights.

ALEX

Apart from his duties as the department chair, Alex teaches Economics and Political Science, his bachelor's degree being in the field of Economics. He has attended quite a number of seminars on cultural solidarity, human rights, gender sensitivity, social development and other related themes. He fondly recalled a one-week training in Kidapawan, North Cotabato where they visited Mt. Apo, the site of the controversial geothermal plant. Although he peers through an economist's lens, his inclination towards a populist approach is reflected in his way of looking at development issues.

Out of the 25 topics that emerged in our conversations, I have identified the following themes:

1. The various dimensions of sustainable development: economic, ecological, social and political
2. Trade-offs and enforcement of environmental protection laws
3. Poverty and the lop-sided North-South relationship
4 Attaining NIChood and the state of the environment

In the course of my conversations with Alex, his background in Economics was visibly recurrent as we dealt with various development issues. This was not only discernible in the language he used but also in his frequent allusion to economic principles and assumptions. While he openly admitted to originally succumbing to an economist's orientation, he claimed that after obtaining his degree in Educational Management, he had mainly focused his readings on issues on human rights and cultural solidarity which explains the populist strands in his development views. He attributed this paradigm shift to the various Peace Education workshops he has participated in.

Theme 1: *The various dimensions of sustainable development: economic, ecological, social and political*

Sustainable development, according to Alex, is not really discussed in the field of Management except in Economics. But even in his undergraduate years, he confessed that the term "sustainable development" was an unknown term. He started reading about sustainable development only after he obtained his master's degree and transferred to the university where he has been teaching since.

He prefaced his explanation of his concept of SD with the economic view.

> *As an economist, we measure wealth in terms of goods and services produced by the economy in a specific period of time. Although in Economics, we also consider the proper allocation of resources, we seldom discuss the use of resources as not only to supply the needs of the present generation but also for the future. And at the same time, integrate the issue of the environment.*

Alex expressed the belief that the issue of the environment is not a recent issue as "this has come up maybe a decade or 15 years ago because then, we've heard of research on the effects of the thinning of the ozone layer."

Alex underscored the need for people's awareness of sustainable development.

> *Sustainable development is a concept that needs to be internalized not only by academicians but also those involved in policy-making, in development programs and economic planning. And even the ordinary individuals, ordinary citizens, peasants, the fisherfolk, those who are engaged in producing or even using the resources in the economy should be aware of what sustainable development is.*

He confessed that he originally held an economist's notion of development but he found this short of being regarded as sustainable.

> *Before, my concept of development is something that is measured by how many flyovers or how many five-star hotels or in terms of how many millions or billions of pesos worth of garments have been turned into exports. But, sustainable development should not be like that. It should be beyond that.*

He considered development from an economic point of view as one that benefits only a few. From such a narrow perspective, development would be seen as confined only to those who own the capital or the land. It excludes the ordinary folks like the farmers, the fisherfolk or the *lumads.* To Alex, this is not genuine development. Development, to be sustainable, should have ecological, social and intergenerational components in addition to its economic dimension.

> *Yes, development should take into consideration the environment. Likewise, the benefits of development should trickle down to the masses. It should also provide for the needs of the next generation. So, those who make development policies for the present should formulate a policy that would also benefit the next generation.*

He added a political resonance as he explained: "Especially because people who engage in development are the people from the upper class. Politically speaking, they are the ones who control the resources."

From his explanation, he implied that the peasants, the fisherfolk, the Lumads whom he had referred to earlier as the ordinary people should be vigilant, get involved and participate in the development process in order to safeguard the country's resources from being exploited by the economic elites.

Theme 2: *Trade-offs and enforcement of environmental protection laws*

In many development projects such as the construction of dams, manufacturing plants, commercial complexes, roads and airports, a perception held by many is that several things need to be sacrificed in exchange for what is considered to be the greater good. As an economist, Alex believes in the concept of trade-offs. He asserted:

> *If you look at the process of development, as an economist, I believe in the concept of trade-offs. In economic development, there are people who have to be sacrificed for the great majority. That's the concept of the economist.*

Alex informed me that to the economist, trade-offs or social costs are unavoidable but effort should be made to ensure that the effects should be minimal. He, however, held on to the view that development planners need to strike a balance between development and ecological concerns. He clarified this point by saying that "it is still possible to attain development without sacrificing the environment." To him, this is dependent upon the kind of resources and the kind of technology that are adopted in the process of development. He argued that farmers can have more farm output even without using chemical fertilizers or insecticides which have been found to have adverse effects on the soil's fertility. They can do this just by being creative such as through the use of organic fertilizers. It had been his observation however, that farmers still preferred to use the commercial fertilizers because they had been conditioned to use them and also because preparing organic fertilizers takes a lot of time.

While Alex strongly asserted that it is possible to attain development and at the same time, protect the environment through policies or an accepted safety net, he nonetheless, lamented that the problem lies in the implementation of such policies. He traced the difficulty of implementation to what he termed as the "culture of corruption."

> *Generally speaking, we have a lot of good laws but the problem is in the implementation....I don't know if it has become a culture - the culture of corruption - that, what happens to the Filipino when we talk of money. They seem to be more concerned with how to get that money instead of how to use that money to have a good program, to have a good output so that it benefits the future generations.*

Although he considered the need for law enforcers to be "re-trained or re-educated," when I further probed into the root cause of what he termed as the 'culture of corruption," he did not attribute this to the lack of education nor to the failure of the schools to instill proper values.

> *Not really. Because these people are even graduates from prestigious institutions. They are even graduates from Catholic institutions and they also have had a great dose of Christian values but why is it that when they are already in the system, they seem no longer convinced of the value of what is good. Even if you bombard them with values if the individual is not willing to change, then, nothing will happen.*

He finally related the issue back to the system and the people.

> *Maybe the solution to that is for government to screen those who will be assigned to government positions. But then, that also poses a problem because those who are assigned are usually those with political connections. Or maybe the government should lay some rigid sanctions, but then we also have good laws enacted and still we find that those who steal or suspected of stealing the money of the government remain free. So maybe, it's the system that makes people submissive. Maybe the people also... because they think it's normal to get the money.*

As Alex was unconvinced that education has something to do with what he termed the "culture of corruption", I persisted in further exploring the issue. If people seem to regard it as normal and regular and have come to accept it as something that one can not do anything about it, then it may cease to be perceived as a problem. The question that came up was: "Why has it become like a generally accepted practice?" To this, Alex was uncertain whether the government or the people should be held responsible.

As a subsequent probe, I brought out the matter of "miseducation". If the "educated" and those instilled with "Christian values" can not translate what they have learned into practice or apply them in real life situations, is there a possibility that they have been miseducated? Alex was inclined to agree with the idea as he associated the term with a Filipino nationalist writer, Renato Constantino who wrote "The Miseducation of the Filipino" (1966). He finally claimed that the penchant for western goods and eagerness to adopt western lifestyles is a possible explanation for the Filipino's getting caught into the web of corruption.

Theme 3: *Poverty and the lop-sided North-South relationship*

The issue of consumerism brought forth into our discussion its impact on development and the environment. The creation of consumerist desires is one business strategy successfully employed by TNCs who have relocated to the Third World. Because of the necessity to increase production, the establishment of business sites in these developing countries enables the TNCs to take advantage of the cheap labor and the abundance of raw materials. The host country is not only drained of precious resources but also becomes the dumping site of their industrial wastes. Likewise, it serves as a ready market for TNC goods, which, in turn, retard the growth of struggling local industries.

Alex brought an interesting analysis of the situation by tracing this unfair North-South trade relations to the development aid or grants given by the industrialized nations to the Third World. He claimed that this development aid binds the leaders from both countries, the donor and the recipient who usually have the same orientations and development views. The forging of this alliance makes it easier for TNCs to operate in the Third World. The leaders of the recipient country become willing partners in this business enterprise and often allow TNCs to bypass certain procedures or standards which are required by law. Alex related his observation that the fruits of development in this context are often in the hands of a limited few and fail to trickle down to the poor majority. This is because South leaders are just too willing to collaborate with their North counterparts by submitting to the latter's development initiatives and it seems not to matter whether the benefits of development should reach the poor or not.

Alex explained that this condition impacts heavily on the environment and the development process in the Third World. He believed that TNCs use up the resources of these developing countries while their home countries keep their own. He offered statistical data he came across to prove what a great consumer of the world's resources the First World is: "From a study I've read, 15% of the population of the First World consume 85% of the world's resources while 85% of the population of the Third World consume only 15%."

He extended this lopsided-relationship to the issues of hunger, poverty and exploitation. He decried, "So it is really a lop-sided distribution....unequal distribution. They say there are foreigners who die of too much food to eat but Filipinos die due to the lack of food."

To Alex, South poverty and environmental degradation are locked up in structures that are created and maintained by this unfair North-South relationship. Hence, in the local context, this kind of structural violence also callously pushes the poverty-stricken to the margins. He cited this dialogue with his father which led him to reflect on why people engage in "slash and burn" agriculture.

> *Our house is near the mountains. When I left 5 years ago, there were still so many trees. When I went back, only a portion or around two hectares of trees were left. So I asked my father, "What happened to this portion?" "The loggers wanted to," my father replied. So I asked him, "Did you allow it?" "Yes, because they needed it. They had to have food."*

Alex looked beyond the immediate reason for clearing the forests. He unearthed the structural violence at the core of environmental degradation.

> *But if you look at it, it's not as simple as that. It is not only confined to the problem of land. It goes beyond that. There's no genuine land reform program. There would be no 'slash and burn' agriculture if people were given lands to till. It goes back to this structural violence... structures that do not share the wealth of the country with the poor.*

Theme 4: *Attaining NIChood and the state of the environment*

Being an economist, Alex also underscored the importance of eonomic development. But he qualified this with "considerations for other aspects." He asserted that other sectors need to get involved such as labor, women, business, and the *Lumads* and they should convene as one Congress and set a common goal. He stressed the need to be clear on what they really want for the Philippines.

He expressed the opinion that Philippines 2000 which envisions the country as attaining rapid industrialization at the turn of the century is a sound idea if everybody shall reap the fruits of this development strategy. He confessed that his only criticism is he finds the time frame too short. He asked with a tinge of skepticism, "How can you attain NIC status within a very short span of time? It took the First World countries like Japan 15 to 25 years, even 40 years before they could attain industrialization."

According to Alex, economic policy-makers in the Philippines seem to be too eager to attain NIChood believing that they can spur the modernization process through the adoption of modern technologies. Yet, he felt that there is no need to be in a hurry to attain NIC status since what is important is to attain a kind of development that will benefit everyone and will preserve the environment and natural resources. He contended that the "development strategy being pursued by the government is beneficial only to the capitalists or TNCs and anathema to the interests of the poor."

When I mentioned the Social Reform Agenda of the government as a document that appears to be responsive to the needs of the poor such as the peasants and the fisherfolk, Alex bewailed this as "only pro-forma on the part of Mr. Ramos." He perceived this as the government's way to appease the feelings of the poor fisherfolk and make it appear that they have been given attention by the administration.

> *But if you look closely at the papers and read about the policies of the government which are mostly economic policies, these are always for the interests of modernization. More so because, the government is convinced that the business sector is the most potent vehicle to achieve NIC status. Hence, there is deregulation of oil and imports as a way of enticing foreign investments into the country. Although I believe it can help the economy in the short term, but not in the long term.*

Like the other research participants, Alex believed that in spite of the reported economic gain, the quality of life of the great majority has remained virtually the same. He also believed that although the government, in its overly-enthusiastic move to elevate the country to NIC status, often assumes a pro-environment posture, the reality of big business corporations gaining legitimate access to the nation's resources could impact heavily on the environment and to the economic and social conditions of the people as well.

Alex was convinced that in the process of development, there is a need for the NGOs and the academe to intervene and get involved. He advocated for solidarity among NGOs and the academe with the latter conducting research on the environmental impact of these development projects. They could then join hands to take a course of action such as lobbying or exerting pressure on agencies concerned to suspend the project. Likewise, he envisioned the academe as playing a major role by educating and conscientizing students and developing an awareness of sustainable development issues. He also felt the need for those in academe to mobilize and conduct seminars in government offices and the business sector to bring home the message that although the efficient use of resources is vital, the protection of the environment which is an indispensable dimension in development should not be forgotten.

Alex added that there is ethics in business, the social responsibility that goes with it which "adheres to the creation of value to society in order to address concerns like the environment." I commented that indeed, some business firms have featured care and protection of the environment in their advertisements and promotion strategies. Alex however, expressed his skepticism by dismissing it as business' way of riding on the environmental trend.

FATIMA

Fatima's participation in a crash course in Peace Education was a significant turning point in her life as an instructor. Not only has it heightened her interest in this area, it has led her to integrate Values Education and Environmental Education in her courses which she felt made her teaching very challenging. Fatima's expression usually became very animated whenever the turn of our conversation led her to relate her own experiences with her students as they went out to the different communities in line with the university's Health Resources and Development Program (HRDP). The Health Resources and Development Program is one of the initiatives of the College of Nursing designed to help communities identified as "poor, deprived, oppressed, marginalized and exploited" (PDOME as expressed in SMU's Vision-Mission) in the promotion of health through community organizing and training for people empowerment towards self-reliance. In this month-long community immersion, the CHN (Community Health Nursing) team employing the community participation (CO-PAR) process integrates with the community by initiating and participating in community activities as they try to build mutual trust and collaboration.

On their community work, Fatima exclaimed, "There you could really appreciate humanity in a way because you will always try to seek to uphold the rights of the community people." Respecting the rights of the community people is integral to the implementation of the Health Resources Development Program.

My first conversation with Fatima extended to almost an hour and a half. Her broad grasp of many development issues led us to touch on a variety of topics covering a wide range of environmental concerns. Out of the 18 topics that emerged from our conversation on the meaning of sustainable development, I have identified five (5) themes.

1. Environmental scenarios and health concerns
2. Development and the rural-urban divide
3. The modernization paradigm of development
4. The elements of sustainable development: equity, appropriateness of technology, respect for human rights and the promotion of environmental preservation
5. Values and leadership in sustainable development

Theme 1: *Environmental scenarios and health concerns*

Fatima shaded the environmental situation in Mindanao light green and claimed "the discrepancy exists in the move of the Philippine government towards 'clean and green' but in action, they are not really gearing towards the realization of their programs in the real sense." She illustrated this point by noting that schools have declared to being "clean and green" but there has been more particular attention to the physical set-up rather than on the "values within each and every person which should be the very foundation of the program." She believed that the development of values particularly in relation to health and the environment should be given more emphasis in the program. Fatima felt that the people in government responsible for environmental concerns such as the program planners or implementors of the Department of Environment and Natural Resources should be more conversant with environmental issues and the new ecological paradigm.

Fatima related a memorable experience for her with her students in Nursing when she first conducted a "direct exposure" through the Health Resources Development Program. They had a seminar and were given "inputs" during the direct exposure. Suddenly, there was this lizard-like creature that hides on trees or behind walls but creates a repetition of sounds when it comes out. Fatima was aghast at the instant reaction of the students. There was the urge to kill the gecko. She asked them , "What was your initial reaction? You had the urge to kill it, didn't you? Why did you need to kill?" The incident was an excellent opportunity for Fatima to integrate environmental education especially the development of an awareness and appreciation for the environment and the importance of environmental preservation. In Nursing Care, it is related to the necessity of appreciating and upholding life as well as nature's way of maintaining balance (e.g. geckos help control the number of some insects).

Fatima deplored the extent of deforestation in Mindanao. She also viewed pollution as a serious problem and points to a particular spot where the problem of garbage is untenable. Significantly, she brought in her observation about stray animals stating the need for the health department to support them "because they are still part of the environment."

Fatima contended that with the dramatic increase in the number of vehicles in Cotabato City, the traffic and pollution problems have worsened. She expressed concerns that this situation would adversely affect people's health. She recollected that five years ago, the situation was not as bad and suggested the formation of a government committee to check on smoke-belching vehicles.

Concerning agricultural lands, Fatima noted that farmers usually use commercial fertilizers and insecticides. Aside from the effect of this practice on the fertility of the soil, she was concerned about its impact on the farmers' health. She recalled one research project done by her students which sought to find out how the farmers in a particular barangay (the smallest political unit in the Philippines) administer insecticides. The study indicated that the farmers do not really observe precautionary measures and therefore, are likely to suffer possible consequences to their health. Fatima believed that it is the responsibility of the manufacturers to include in their packaging a warning or ways to use the pesticides properly as a way of protecting the farmers' health.

Fatima related her observation that the unique wisdom of indigenous ideas was beginning to be recognized by the people not only in farming but also in medicine. Because literature on agriculture had claimed that the decline of the soil's fertility is due to the excessive use of chemical fertilizers and pesticides, the farmers are gradually shifting to organic farming. Hence, more and more are using alternative ways to get rid of pests and insects. These practices seem to reflect a return to old traditions as there had been a surge in interest in alternative medicine and organic farming. Fatima happily informed me that the health department actually has a section on traditional medicine and that all types ranging from accupressure, massage therapy and the use of herbal medicine are now being recognized.

Theme 2: *Development and the rural-urban divide*

We proceeded to discuss another important sustainable development issue: rural-urban migration. Fatima pointed out that the rapid increase in the urban population for the past few years had been due to the movement of people from the rural areas to the cities where they often get attracted to "the beauty of modernization which they consider as development." She also attributed this rural-urban flow to the peace and order situation which has led people to seek refuge in the cities. Encounters between the military and rebel groups in some areas have created a kind of fear that forces people to flee their homes.

Fatima fondly recalled that in her younger days, the city where she grew up was very peaceful. The relationships were informal as there were fewer people and she could count the number of jeepneys, (the common mode of Philippine public transport) with her fingers but the people showed they cared for the earth and their environment.

Another significant observation presented by Fatima was the presence of quite a number of beggars in Cotabato City. Fatima expressed her dismay over this scenario where innocent children as well as adults (who are not that weak and old) stretch out their palms to passers-by. Fatima also described how refugees would occupy their family home. Whenever there was an “encounter” going on in the nearby areas, people would seek refuge in their family home. Her mother, being very generous and kind could not bear to eject them since these refugees had nowhere to go. At least, in that home, they felt a sense of security.

Our discussion of environmental problems and development issues led Fatima to question this very wide discrepancy in the distribution of wealth and resources. She asked, "Why are there people who are very poor and why are there people who are very rich.? Wealth is not equitably distributed. There is this very wide discrepancy in the city. That's one observation I’ve had."

I concurred with Fatima and shared my impressions of the city. I noted that there were very large and beautifully-designed homes with several cars parked in front but there were also those resembling the slum areas in Manila. Fatima informed me that those who own the big houses are the "public servants." In a voice tinged with frustration, she asked, "How come?" She was referring to the political elites who happen to be also economic elites as most of them are engaged in business.

Theme 3: *The modernization paradigm of development*

The paradox that governs the link between development and the widening gap between the rich and the poor became the central focus of Fatima's analysis of development. She reported that, "They say that development has impoverished the poor...it has widened the gap between the rich and the poor. And yet development is supposed to narrow this gap, not widen it."

Fatima's observations led us to further explore various perspectives of development and how these impact on people's lives. She immediately mentioned the modernization paradigm as giving too much emphasis on economic growth and described how this has greatly influenced people's attitudes and lifestyles.

> *People are happy that their lifestyles are patterned from the west which I believe should not be the attitude because if we come to discover our indigenous way of living, indigenous lifestyle...this could be more healthy and peaceful. But with media, we are very much attracted to the lifestyles of the North, the model of modernization.*

This modernization process which the government has been envisioning through Philippines 2000 was fast winding its way into the Mindanao area as the Peace Accord between the Government of the Philippines and the Moro National Liberation Front (MNLF), a major Muslim rebel group has been signed. The influx of foreign business in the area was expected alongside the restoration of peace in the region. But, Fatima was doubtful about peace reigning in Mindanao. She claimed that the more the people are scared, the more divided they are, based on religion. She cited the notion of some Muslims that Mindanao finally belongs to them as proof that the overall concept of the Southern Philippines Council for Peace and Development (SPCPD) was not fully understood by the people.

Expressing her doubts over the country's development plan, Fatima echoed what the other participants have observed regarding development projects that have been undertaken. Claiming that the development plan appears substantial on paper but flawed in the process of implementing environmental protection, Fatima brought into light issues concerning the dwindling food supply as well as the worsening conditions of the poor and marginalized. She asked, "Who benefits from this kind of development?"

Reflecting on this question brought the APEC (Asia-Pacific Economic Cooperation) issue into the discussion. In 1996, the government had been too preoccupied with preparations for the 18-member nation summit in Manila. The media drummed up the event but one columnist presented his critique on the action of the Philippines as the only member country pushing for an earlier implementation of the liberalization of trade. I brought this point into our conversation. It has been argued that free trade between rich and poor countries may not really be free nor could it be truly fair since the trading field would not be fair in the first place. This led Fatima to comment that in the development of the center and the periphery, the flow of profit is usually towards the center. This understandably brought her point that “development” could end up being concentrated only in the hands of a privileged few.

Fatima's observation on the country's development plan as being problematic in the conservation of resources is manifested in the development projects being undertaken. As agricultural lands are being converted into industrial complexes, subdivisions and resorts, there is the threat of a dwindling food supply which, correspondingly, affects people's economic conditions. The problem that comes up is: "Who benefits from this kind of development?"

Theme 4: *The elements of sustainable development: equity, appropriateness of technology, respect for human rights and the promotion of environmental preservation.*

As we both expressed our uncertainty over the development process as reflected in Philippines 2000, the conversation naturally flowed into the topic of sustainable development. How can development be sustainable?

> *For development to be sustainable, there should be equity and appropriateness of technology. We should use the kind of technology appropriate for us. I could also say that with sustainable development, the rights of many should be respected. Nobody should be exploited for the sake of development.*

Fatima underscored the importance of respect for human rights especially because it had often been the case that when a development project necessitated the putting up of a building in a certain area and the people needed to be relocated, "the poor were just pushed aside." The government usually tended to overlook the whole issue of relocation thus, the people were displaced.

To Fatima, sustainable development also promotes the preservation of the environment as it should be seen through the perspective of the new ecological paradigm. She elaborated on this paradigm as "a paradigm that upholds life. . . a recognition of all living things as interrelated.. . "

While most people are very much concerned about the advancement of science and technology in order to attain development, Fatima expressed the fear that as children get hooked with computers, this modern-day preoccupation could be dehumanizing. She further illustrated this with her observations regarding the use of cell phones. She commented that people acquire cell phones not as a matter of a job-related necessity but as a status symbol. Thus, there is this struggle or race towards the top in terms of the acquisition of material goods which could make people oblivious of everyday realities.

Theme 5: *Values and leadership in sustainable development*

To Fatima, the government's development plan needs to be reexamined particularly on the aspect of implementation of environmental care. She expressed the belief that given a more sufficient background in Environmental Education, those who work in the Department of Environment and Natural Resources (DENR) could be better implementors. She based this comment from the experience of her sister who works in the DENR. After sharing with her some literature on Environmental Care which constituted their readings in Peace Education, her sister became very appreciative of what the articles conveyed as she gained a more holistic view of environmental issues. She tied this to the importance of Values Education.

> *Without values, there is no way by which we could be good implementors of a specific program or project especially so because our government is gearing towards a kind of development which is not so humanity-friendly as I'd like to say. Because in the pursuit of this kind of development, many are exploited especially the least fortunate and so, the rich continue to amass wealth.*

Fatima believed that a program becomes more authentic if it is well understood and if the implementors themselves possess sufficient background knowledge on its various dimensions. She asserted, "Before we do something, we should be aware of our intentions, what we are going to do, why we should do it, what urges us to do it. Life would be more meaningful if we know what we are doing and why we are doing it."

As our conversation progressed to the question of values, I presented what another research participant said about values education in schools. It has been pointed out that teachers try hard to develop and nurture enduring values among students but when the latter get out of the school system, it is very ironic that what had been taught no longer matters as they get co-opted by the system. This is an illustration of the dilemma of application. As these graduates become enmeshed in the system and occupy strategic positions in government and in society, they get caught in the web of structures that reproduces and perpetuates the status quo. Fatima supported this contention adding that government officials manifest a greater interest in the budget of the project and not the project itself. She bewailed this kind of negative motivation among public servants and politicians.

Fatima attempted to critically examine why people generally perceived politicians with distrust. Speaking for her tribe, she described how leadership was ascribed to the *datus* or the *bais:* "The datus were proclaimed as datus because they were loved and respected by the people and not because they had arms, power or money." Their genuine love for the people was, for Fatima, what differentiated them from the current breed of politicians. She added that "datu" or "bai" was a title given to a particular person who rose from a family of leaders. She felt disappointed that today's leaders are politicians who do not have a genuine concern for the people. She asked, "So what would you expect from a leader who has a very unpleasant disposition in life? The more that he/she will not give what is best for the community. So we are bound by all this turmoil."

To Fatima, a leadership that genuinely cares for the people is an important element that could steer the development process and make it sustainable.

ESTELA

Having been "out of school for 15 years," Estela claimed she discovered the very challenging field of Peace Education soon after she got into the program. After taking the course on Environmental Education (one of the courses in the Peace Education Program) she got "hooked." She got more motivated when she became involved in a collaborative research project between St. Mary's University and a foreign educational institution.

My conversations with Estela have been greatly enriched with her broad range of experiences especially in the area of language and literature. Several themes emerged from the numerous topics that we touched on. These themes included the following:

1. Environmental care, intergenerational responsibility and valuing of humanity as aspects of sustainable development

2. Foreign investments and the exploitation of resources
3. Government, media and people's awareness of environmental issues

Theme 1: *Environmental care, intergenerational responsibility and valuing of humanity as aspects of sustainable development*

In explaining her understanding of the term "sustainable development," Estela brought forth her observation that people often equate this with environmental preservation and protection. She paraphrased the WCED definition of "sustainable development" as "making use of everything around us - the resources - without jeopardizing the needs of future generations." She clarified:

> *When we think of sustainable development, we mean taking care of our present needs but in doing so, we do not jeopardize the needs of the future. The future generations will still be able not only to survive but to live a good quality of life because we have left something for them to enjoy.*

Estela underscored the importance of resources because in order to produce, people need "land, water and trees and people as well to serve as workers of the future." She related that she came to know of the population dimension of sustainable development when a colleague of hers pointed it out to her. She claimed that this caught her by surprise but eventually came to realize that population maintenance and not control made more sense after she had grappled with the question: "How can development be sustainable if everybody opts for population control which could result in humanity being wiped out on the face of the earth?" Although population control does not necessarily lead to extinction, this view reflected Estela's concern for the future.

Estela also brought into the discussion her comparison of tribal people and modern people. She was of the opinion that "tribal people have a better understanding of sustainable development because they get from the earth only what they need." In contrast, modern people especially those driven by greed want to take everything without regard for the consequences. This underscored her perspective that for development to be sustainable, future needs should also be taken into consideration.

A valuing of the environment which includes every organism could lead to a people's valuing of themselves. This perspective was illustrated in Estela's recollection of an article she read from a magazine about the effect of the disappearance of the dinosaurs. She felt that the author made a simplistic analysis of the situation when he regarded it as an inevitable occurrence that could very well happen at one point in time. Furthermore, the author had suggested that people should not be very concerned about it because ultimately, humankind will always find the means to survive even without them. He believed that the ingenuity of the individual is undisputably made manifest in his/her adjustment to his/her environment. Estela considered the author's view very limited because "if everybody will think that way, eventually, even man/woman himself/herself will become extinct." She wanted to convey that extinction could not just be a natural process and that human activities are responsible for the plight of endangered species.

We tried to probe more deeply into this issue. Estela presented the case of the Philippine eagle which needs at least P50,000 a year in order to survive. She asserted in a half-amused tone, "The controversial part is they do not even worry about children dying yet they make much fuss about eagles and all that." She returned to her original argument that "if eagles disappear, then eventually we will disappear also."

This issue which Estela brought out is indeed wrought with moral underpinnings. By reflecting on the realities of people dying, of the hunger and poverty that have been so marked in many communities as well as the unhealthy conditions that grip people in various areas, there is a tendency to think that this project of saving the eagles and spending a good amount for this purpose is simply "nonsensical" judgment. But this would be looking at the issue on a surface level. The case of children suffering and dying when brought into a deeper realm of analysis would bring Estela's argument into a brighter light. There is a need to look at the issue of poverty as emerging from a complex interplay of many factors notably the destruction of the environment and the depletion of natural resources of which eagles are a part. The increasing number of endangered wildlife species and their eventual extinction is therefore, a symptom of a deeper environmental and in turn, social malaise.

Theme 2: *Foreign investments and the exploitation of resources*

Estela claimed that although the term "sustainable development" seemed to have become a byword in government and business circles and was swiftly seeping into academia, she was skeptical whether people knew what it actually meant. She had formed this perspective because she had observed that even the government which had adopted the term in most of its policies had become so engrossed with its policy of attracting foreign investors to take part in shaping the Philippine economy. She cited the case in T'boli land where two or three mining companies had been conducting their own explorations. For Estela, this governmental move could be traced to a popularly-held notion of development as "economic growth." This overwhelming desire to advance economically in order to be in step with the nation's next door neighbors became a justification for the destruction of the country's natural resources. Estela explained that development is "economic growth which means destroying the natural resources." She added that people would always justify it as: "Well, that is part of development. You should be ready to sacrifice."

Estela questioned this trade-off strategy for failing to benefit the poor majorities in the long run.

> *But we have to be very careful. Who gets "developed"? Who gets the fruits of development? So, it is going to be the foreign investors but the money goes back to the mother country. We are happy because they generate jobs but in the end, we get exploited...the land is exploited. And they are very wise. They lease the land for 99 years or so and after that, when the land is useless, they go. They look for another country which they can exploit.*

Estela nevertheless, expressed optimism that by resisting the attempts of foreign investors to "develop" the land, the people will not succumb to the pitfalls of exploitation. She related the experience of the computer-geologist of one of the mining companies doing explorations in T'boli land who had grown frustrated trying to convince the people that the land will not be destroyed. The latter would not consent to letting the company get into the heart of their place. Apparently, what happened in other places like the province of Marinduque where a mining company had left its rivers dead, had greatly influenced the people to critically examine any development project that comes their way. Estela considered this as a very positive indication that the people will not allow themselves to be exploited.

Theme 3: *Government, media and people's awareness of environmental issues*

Estela asserted that she had been aware of development issues even long before she joined the group taking the Peace Education program at the university where she teaches. Although it seemed she was "purely in Literature" she found that there are vast opportunities in this field to infuse concepts from other disciplines. I immediately concurred based on my experience as a former Language and Literature teacher giving stress to the tremendous possibilities for the integration or infusion of environmental issues. Although, at that time, the terms being used today were not yet in popular use the environmental concepts were there and it was simply amazing to discover that these issues often surfaced in large measure in many unexpected ways.

Estela expressed her concern that the Peace Education program which she made frequent references to, seemed to have been misunderstood by some people who found it too idealistic in its formulations of how to change the world. She was of the opinion however, that such a perception stemmed from what appeared to be a radically different development paradigm taken by those who are in the program. Their being regarded as an "esoteric group" was therefore a natural consequence of this paradigm shift. She related that at one time, she got very upset when Upi, a municipality which is situated at an elevation higher than the outlying areas got flooded. What triggered her reaction, was the usual response from the Department of Environment and Natural Resources: "The flood happened because the rain had been very heavy." To Estela, this classic explanation was an obvious attempt to obscure the issue since as she put it, "they would never accept the fact that there was this flood because of so much denudation."

Estela's observation triggered my recollection of how government officials similarly interpreted environmental disasters in the '70s. Media pictures of the inspection entourage mostly composed of politicians and officials from various departments and agencies assessing the extent of the calamity and declaring certain sites as disaster areas, the evacuation centers and the distribution of relief goods, the ravages of a destructive flood or the legacy of a ruthless typhoon with carefully selected accompanying text such as the nightmarish accounts of survivors, filled the front pages. Some human interest interpretations such as "these are natural disasters" or "it's God's will" were used to explain the cause of the calamity. One of the most memorable floods which devastated Central Luzon and affected Metro Manila as well was attributed to the disappearance of the image of the Holy Infant Jesus in one of the big churches in Manila. Thus, the calamity generated a religious fervor that gradually spawned the people's resignation and unquestioning acceptance of fate so that the situation of the forests was relegated to the background.

Estela was happy to mention that when the devastating Ormoc flood in the Visayan region happened in 1991, the link between forest denudation and the occurrence of floods was highlighted. This led us to think that the people were getting aware of what was happening in their community. However, even as Estela added that government officials have also shown their awareness of this link, she was of the opinion that "although sometimes, even if they know it, the money part is stronger so they allow these things to happen." She was alluding to corrupt practices of officials who do not consider the welfare of the common people and the protection of the environment because money speaks louder than principles or policies.

KRIS

Kris was one of the participants in the training program in Peace Education conducted in Saint Mary's University where she teaches. In her science classes, Kris had initiated simple but meaningful research projects that deal with environmental issues. Her class had also taken part in a cleanliness campaign which was one way of addressing a major problem in Cotabato City.

From the numerous topics that emerged in our conversation, I have identified the following major themes:

1. Balance and the preservation of life
2. Development projects, resources and human rights
3. Political leadership and sustainable development

Theme 1: *Balance and the preservation of life*

For Kris, the notion of balance is the core of sustainable development. She also firmly asserted that even with the rapid advancement of science and technology or with "progress," the preservation of life is of paramount importance. Aside from the economic dimension of sustainable development, Kris was of the opinion that it has also a social component. Social problems often go hand in hand with environmental problems. On this, Kris reiterated her overriding concern - the need for balance.

> *One of the principles of ecology is the principle of balance - balance in nature. If ever there are advances, development planners should look into the ecological aspects of life, not only human life but also the flora and the fauna. What usually happens is, there is a destruction of the flora and the fauna because they don't take into consideration what will happen....what happens to this balance in the physical and biological aspects. There is a need for balance in the physical and biological aspects*

Kris' notion of balance in this context differs from Alex's and Jerry's view which referred to a consideration of both the environment and development issues in aiming for sustainability. Her view was more inclined towards the maintenance of the biodiversity of the ecosystem and the interrelationships of all life forms.

It is understandable why Kris put so much stress on the need for ecological balance. With her background in the Natural Sciences, she knew very well how an ecosystem is sustained and how the maintenance of biodiversity would lead to the preservation of life which she considered as crucial in any attempt to attain development or progress. However, she agrees with Jerry and Alex,

> *Well, actually if we talk of development or progress that also puts safeguards on the environment, then, perhaps, we can have the kind of economic growth that can help enhance people's lives. That is why we say that sustainable development is economic growth with ecological security plus consideration of its social imperatives.*

Kris qualified her concept of economic growth as one that "helps enhance people's lives" to distinguish it from the kind of growth which ignores its detrimental effects on the people's quality of life and the environment. How to bring about economic prosperity without causing harm to the environment presents a serious dilemma. Kris' stress on the preservation of life provides interesting insights in going through a shift in our values system.

Theme 2: *Development projects, resources and human rights*

While the GNP (Gross National Product) is the usual yardstick of development, Kris argued that it is not an adequate measure of sustainable development because "often with economic growth, so many things are destroyed."

Like most of the research participants, Kris observed that the gap between the rich and the poor was becoming wider and wider in spite of government claims about the improvement of the Philippine economy. She saw the gap as a result of the penetration of

TNCs into the country which she believed were not concerned with the condition of the environment "for they are only interested in the present."

Kris was very much concerned about the impact of TNCs in the country. She expressed with lament, "Oh yes...they intrude into our seas and our fishing grounds. And also our coastal waters...our coral reefs, too. They have been destroyed." Kris was alluding to big trawlers which had taken over the poor fisherfolk's fishing grounds. Because of this, most fisherfolks no longer catch enough for their family's needs.

The development projects of big business firms naturally came up in the course of our conversation. We brought out the case of a billion peso cement project in Pangasinan, a province north of Manila. Because of its foreseen impact on people's health, the project was cancelled. The action led us to agree, as a sign of hope, that through the networking of NGOs, POs and other sectors like the media, powerful business firms can not just ignore people's rights.

In the case of the Mt. Apo Geothermal Project, it was learned that while the people could not stop PNOC (Philippine National Oil Corporation) from its drilling operations, their collective voice certainly has generated an impact. As claimed by the Director of Kinaiyahan Foundation, an NGO, "the protest actions may not have stopped the operations of the company but it had certainly put a wedge into its plans for future expansion" (Tabako: Interview, 9-29-96).

Reflecting on this situation, Kris emphasized the need for environmental measures. She suggested, "If they put up development projects like this one, they should also put up measures to safeguard the environment from the harmful consequences of the project. They should also ask, for whom would the development be? Isn't it for the people?"

Kris also censured development planners for taking advantage of indigenous people by trampling on their rights. Not only have they been neglected in terms of the delivery of basic services. She insisted that they have been often ignored in the planning and decision-making process especially when granting approval to big business projects.

> *Development planners promise the indigenous people this and that. In the end, they are just taken advantage of or victimized by this so-called "development." There's also the dimension of human rights as in the case of Mt. Apo. The tribal people have been displaced. When they raise their voices in protest, these are often muted by armed security men.*

According to Kris, the indigenous peoples are not a minority in the Philippines. Rather, they have been "minoritized" by the settlers who took advantage of their land.

Theme 3: *Political leadership and sustainable development*

In referring to the political dimension of sustainable development, Kris deplored the leaders' lack of political will.

> *Development...sustainable development has varied dimensions But how will economic progress be attained with the kind of politics we have? There's also the political dimension because those who are in Congress, those who are in political leadership should be able to show political will.*

Kris expressed her frustration with leaders lacking political will in dealing with the problem of environmental protection. Attracting foreign investors had become a primary concern for Philippines 2000 to take off and the need to demonstrate strong political leadership could not be more urgent at such time. The absence of a strong will to protect the environment has caused the rapid destruction of our forests, rivers and other marine resources. Related to this is the question of peace which has been an issue in the region for quite a long time.

Kris shared a very ironic but revealing insight regarding the lack of peace and the protection of the forests. She claimed that because of the social unrest and the frequent military operations in the Mindanao area, the resources have been spared from the operations of TNCs that tend to avoid setting shop in conflict-ridden areas. Because of this, she claimed that the forests had been saved.

Kris expressed her firm conviction that only a genuinely committed leadership could reverse the tide of the country's plunge into environmental degradation. To her, a strong political will is a necessary ingredient to the attainment of sustainability.

JENNY

Jenny related that she finds teaching a fulfilling experience. An engineer, she joined the faculty of her alma mater just after her graduation. Her background in Environmental Science which is part of the Engineering curriculum has been a vital foundation of her views on education for sustainable development. She had also attended seminars in Peace Education which were conducted in their university. She took pride in having been involved in the poster making contest on the care of the environment sponsored by the Mathematics and Science Department in SMU in coordination with the Department of Environment and Natural Resources (DENR). The posters were exhibited in various areas in the city.

Of the various topics that we discussed in our conversation, the following themes emerged:

1. Resources and poverty
2. Indolence and indifference as well as corrupt practices as hindrances to development or progress
3. Individual responsibility and environmental problems

Theme 1: *Resources and poverty*

Jenny strongly contended that the major factor in sustainable development is the environment. This is because the natural resources are part of the environment and economic development for instance, depends to a large extent on the wise use of resources.

Claiming that although there had been major advances in science and technology for the past few decades, Jenny expressed her belief that these have actually created more problems for the environment. Pollution in various forms has become a major cause for concern. As she put it, "the more factories, the more wastes to be disposed of."

Citing the case of the fisherfolk, Jenny was of the view that environmental degradation is often rooted in poverty. She explained that the poor fisherfolk have to struggle against the powerful capitalists in the industry. Unable to meet their basic needs, some fishermen would resort to the use of dynamite or cyanide in order to survive. This is because they have other basic needs like clothing and shelter and fishing the traditional way no longer brought in enough to meet these other needs of the family.

Jenny described the situation figuratively as the "*have-nots* being trampled upon by the *haves*." In the process, the poor are simply deprived of any opportunity since the rich would always have the advantage in the system. This situation led Jenny to express her pessimism with regards to the country's chances to attain sustainable development. She claimed, "I think it is difficult to attain sustainable development. Unlike in other countries where the government really extends assistance to the poor to make their lives better. But here, the poor remain poor while the rich get richer."

Jenny considered the system as contributing to the widening gap between the rich and the poor. She related this to the national leadership's move of attracting foreign investors into the country. Mindanao has become a priority area in the government's development agenda because the region has a wealth of resources, be it in fishing, agriculture or mining. Beaming with pride, she described one of these resources: "Oh yes, just like in Upi, the home of the Tirurays. They have this fiber, something like abaca. Oh, those materials are truly beautiful."

As one of the remote areas in the province, Upi may not yet be considered a lucrative investment area. Jenny's spontaneous display of joy was more of a mixed expression of awe and pride which is a natural feeling that emerges from a sudden realization of possessing something of value. Although Jenny is not from the area, her statement also conveyed a feeling of empathy with the Tirurays whose resources like the beautiful fiber she was referring to, might one day capture the fancy of investors.

Theme 2 *Indolence and indifference as well as corrupt practices as hindrances to development or progress*

Jenny was of the opinion that with the SPCPD (Southern Philippines Council for Peace and Development), if the government was really sincere in its objectives for Mindanao, the region may have a chance of attaining progress. However, if the old values and attitudes continued to exist, then, it would still be the same old story. She cited the case of small towns which have posted little or no significant gains towards development because the old values and practices have remained.

Jenny was convinced that poverty is also rooted in indolence. She commented that the reason Muslim communities have not prospered as much as the Christian communities was partly because the Muslims have an easy-going lifestyle with an unusual fondness for cigars and coffee. Their poor attitude towards work led them to sell their lands to the Christians who have worked very hard to improve the land. I inferred from this comment that not attaching value to the land or natural resource is a major hindrance to development.

I informed Jenny that her observation has been pointed out to me by a few people I have met. On the other hand, as some analysts and the Islamic secessionists have agreed, Muslims in Mindanao have been victims of exploitation and neglect by the government. Jenny assured me that they had been given funds and offered many opportunities but these had gone to waste. Government agencies responsible for supervision of projects do not monitor them anymore because they are scared to go into remote Muslim areas.

Theme 3: *Individual responsibility and environmental problems*

Jenny considered pollution as a major problem in the city of Cotabato. She described the situation thus:

> *We have a very polluted environment. We have lots of garbage everywhere. We also have a high concentration of garbage in the market. The garbage collectors collect the garbage late in the morning when so many people are going to the market and many vehicles are plying their routes. That's why you can smell the garbage when you pass by these places.*

She added that the factories contribute also to pollution since they emit a very foul smell. Rivers have been polluted because people with no sense of environmental responsibility just throw or dump their wastes in the river. She was convinced that this problem is rooted in the individual.

> *Even if there are receptacles for garbage if the person is not disciplined then nothing is going to change. There are 3 modes of exposure to pollution: social habits, occupational conditions and the environment. In social exposure...smoking, for instance, can only be controlled by the person himself. So with this garbage problem, we have to educate them about the effects and also inform them that these could be recycled and they can earn money through that.*

She also noted that Cotabato City is a growing city hence, there was a corresponding increase in the number of vehicles which made the congestion and traffic problems even worse. Jenny recalled that the city government had a program requiring vehicles to install a device to reduce the emission of gases or exhaust and noise. She was not very sure however, if this was pushed through because she claimed there were still vehicles that were creating a lot of noise.

To complement Jenny's observations, I repeated what other research participants have noted with dismay: There are good laws but the problem lies usually in their enforcement. But where government agencies and institutions fail, people's organizations and communities could join hands in seeing to it that the laws are faithfully implemented. Some of the participants underscored the role of NGOs in this aspect citing the Mt. Apo Geothermal Plant project as a case. The reports showed that the protest action seemed to have raised people's awareness about the project's drilling operation.

Jenny however, had a vague recollection of the Mt. Apo protest rally and confessed that she had no chance to follow this up. She remembered though that the Lumads had been protesting but it seemed to her that nothing happened because they have continued drilling the wells.

TERESA

Seemingly always in high spirits and sporting a lively disposition, Teresa radiated with enthusiasm whenever she talked about her experiences that relate to sustainable development or to environmental care. She had attended the Peace Education workshops conducted in the institution where she teaches and she found these very useful in the improvement of her teaching. Full of optimism, Teresa always looks at the positive side in any given situation. New courses assigned to her are in her words, "a challenge because they greatly enrich my teaching-learning experience."

Teresa and I engaged in a very interesting discussion of a variety of topics of which the following themes have been identified:

1. Environmental concerns and what citizens can do
2. The need for a strong agricultural base and sustainable development
3. Sustainable development and self-sufficiency
4. Technology and sustainable development

Theme 1: *Environmental concerns and what citizens can do*

Like her colleagues, Teresa considered the garbage situation and forest denudation as the city's major environmental problems. Noting also that the number of trees in the city had considerably been decreasing, she fondly recalled that one of her late husband's (who was then the barangay captain) pet projects in the community was planting neem trees. Teresa enthusiastically described the project. They built a nursery in their yard and gave out seedlings for people to plant. As barangay leaders, she and her husband led in the planting of neem trees which presently line the streets in their barangay. She proudly added that the neem tree can very well serve as a mosquito repellant. In a tropical country where the prevalence of mosquitoes is a major concern, this information about the neem tree deserves serious thought.

With regards to the garbage problem, Teresa expressed the view that "the government is okay because it has provided the receptacles." She felt that what was necessary was the education of the people. Serving as role models, she and her husband used to do the street sweeping. They wanted to show the people that the maintenance of cleanliness in the area is a citizen's responsibility.

In line with the garbage situation was the aspect of sanitation. Teresa contended that since vending is also one of the people's source of livelihood, there is an essential need to educate the vendors even in such simple details as covering the food they sell. She noted with dismay that nothing has been done in this area. She complained, "We need education. Think of the street food with vehicles passing by. Oh... they should really cover the food. It's open to dust and flies and what have you." Teresa also believed that the city has laws or ordinances to promote health and sanitation but these tend to be ignored or forgotten when they are not enforced.

Elaborating on the problem of forest denudation, Teresa traced the root cause on "cutting trees without replacing them." She further explained that even if these were replaced, most often they were not provided with adequate care to sustain their growth. She expressed her observation that the forest situation is not so bad in Mindanao compared to the other areas in the country. However, she conceded that there are places in Mindanao especially in the interior areas which have been experiencing floods. She blamed the logging companies which, despite the existence of a log ban, usually got away with the consequences. While she believed the "kaingero" or "slash and burn" cultivator is partly to be blamed, it is the logging companies which do greater damage. She described the operation thus:

> *If they can not pass through the highways when bringing out logs, they pass through the water. They've got a system. After that, they're free. They find other ways of transporting logs. And there are officers who cooperate with them. So, how can the forests be protected?*

Theme 2: *The need for a strong agricultural base for sustainable development*

Teresa strongly argued that Philippines 2000 which envisions rapid industrialization for the country will have a great impact on the resources as well as the environment.

> *If there is going to be rapid industrialization, naturally, there will be a bigger portion of the rainforests that will be damaged in the process. I strongly disagree with this program of rapid industrialization because there will be a great demand for raw materials. That would mean the depletion of our natural resources like our forests. With deforestation, there will be floods and naturally, soil erosion. What will happen to our agricultural production? And how about pollution? With industrialization, there's going to be more smoke, CFCs, smog and there will be more vehicles to aggravate the problem. In fact, the number of vehicles has greatly increased. To me, if I were to do the planning, I would strengthen first our agricultural base. to increase food production for domestic consumption without destroying the environment.*

Teresa insisted that the focus should be on the agricultural aspect. She pointed out that there are "big tracts of land which can be converted to agricultural lands. They can also make use of the rolling mountains for agriculture and this would also mean food for the people." She also claimed that the farmers are going back to their old farming practices like using compost for fertilizer. At this juncture, Teresa remembered that her students in the Accelerated Trainee Program are taught to use compost for fertilizers for their garden in school so that they can show this practice in the communities where they will teach. The Accelerated Trainee Program is a special program in community extension of their college.

Theme 3: *Sustainable development and self-sufficiency*

Teresa summed up her view of sustainable development in these words:

> *It is the concerted effort of individuals especially the family in order that they can control the rising cost of commodities and the worsening economic conditions. Likewise, it is the wise use of resources, natural and human, for self-sufficiency and self-reliance. There's the ability to sustain life.*

Teresa emphasized that in the wise use of forest products for example, people should know how to replace them so that they can sustain the life of the forests. She expressed her philosophy of environmental care in simple terms: "Because, you see, if we take care of Mother Earth, then, Mother Earth will take care of us."

Teresa also asserted that this basic step towards sustainability should start in the home so children need to be taught how to be self-sufficient by taking care of Mother Earth. She also harbored the fear especially when she walks under the sun and feels the intense heat that "Mother Earth is not going to stay long unless people will unite and protect her." This, she attributed to global warming, pollution, congestion and other problems brought about by industrialization.

Theme 4: *Technology and sustainable development*

I presented the view of some people that technology could provide an answer to all the problems she mentioned. Teresa countered that sometimes new technology brings other effects and poses greater problems than it solves, citing the case of medicine manufactured by pharmaceutical companies which may treat one ailment but could lead to another malady. She took pride in talking about her next project with her students - a herbal garden.

With delightful good humor, Teresa ended our discussion by relating her experience treating one of her students who had been limping because of an infected wound, with her special herbal plants: "In just a matter of days the wound has healed so when her father asked her who gave the medicine, the girl quickly replied, 'It's Dr. Teresa Marquez!"

With a chuckle, Teresa remarked with a mixture of pride and humility that "such are the simple joys that come with sustainability."

ARLENE

Aside from a doctorate in Educational Management, Arlene also holds a Bachelor of Laws degree. Her experiences are as diverse as her areas of specialization. Like most of the other research participants, Arlene's background in education for sustainable development comes mainly from her cognate course in Peace Education.

Many topics had been brought forth in my conversations with Arlene as we compared notes on what happened then and what had been recently happening with regards to the environment. Out of these 15 topics, I identified three major themes. These are:

1. Sustainable development as an old concept
2. Development for all
3. Raising people's awareness

Theme 1: *Sustainable development as an old concept*

According to Arlene, although sustainable development is a new term, it is not a new concept for "it has been with us before." She claimed that programs towards sustainable development have been earlier implemented. She remembered several government programs in the '70s like the Youth Civic Action Program (YCAP), the Cleanliness and Beautification campaigns, Green Revolution and the Tree Planting programs which she considered as ways of caring for the environment. She pointed out that "these are aspects of sustainable development because environmental care is one dimension of sustainable development."

Elaborating on the Tree Planting Program, Arlene recalled that sometime in the '70s, there was a DECS (Department of Education, Culture and Sports) memo or circular requiring students to plant trees. As a requirement for graduation, students had to present a certification from the barangay captain that he/she has planted a certain number of trees. I remembered this campaign very well, too. Responding to my comment that in spite of this massive program, there were problems of flooding as a result of forest denudation, Arlene pinned it on the lack of support from administrative quarters.

> *You know, things are easier said than done. High government officials find it easy to issue directives and circulars ordering those in the lower ranks to do this and do that. They keep on issuing orders... but these projects lack support especially in terms of logistics. They just say 'do this', 'do that' and 'be resourceful'. Even if the programs were good if the implementors lack support, it would just be mere sacrifice on the part of the implementors.*

Likewise, she throws the blame on the coordinators or the barangay captain who issued the certifications even when the people could not comply with the requirement. The program's failure was also attributed to the lack of understanding among the implementors about the rationale behind the program.

Arlene also recalled that in the latter part of the '80s, there was a greater concern for the environment. She cited the enactment of the law on illegal logging and the debates that have been conducted concerning this issue to prove her point that environmental awareness then, had its stirrings.

Theme 2: *Development for all*

Arlene asserted that "compared with the past, we have developed in a way." She advocated the need for a more equitable form of development as for her, development should be for all.

> *The environment is not the only aspect of sustainable development. Often, there is this structural violence that affects the economic dimension. How can we implement programs when we lack support or logistics? People 'above' expect too much from the people 'below'. Those who are 'above' have the power and they amass great wealth. The workers are the ones who suffer.*

Arlene also looked at rural-urban migration as a cause for concern. Many people from the rural areas flock to the cities in the hope of finding jobs and improving their lives but often they end up as squatters because they have no place to go. Then, they are confronted with many problems like pollution, overcrowding, health and sanitation, criminality and unemployment. She noted that there are no social programs for these people and often, they lack the means to earn a living which can lead some of them to commit crimes. The inequitable distribution of resources usually causes a spin-off in the socio-economic problems of the people.

Arlene stated with a tone of resignation, that she sometimes regarded the solution to these problems as bordering on hopelessness because "these problems have been there since time immemorial." She cited the garbage situation in the city, claiming that since she set foot in Cotabato many years ago, garbage has been a problem. It is still a problem and because the city has grown, it is also confronted with the problem of pollution. To Arlene, these problems call for all responsible citizens to do their share because development is for all. Inspite of her frustrations however, Arlene would not totally disregard the efforts of government agencies like the DENR. She was happy that the department has been conducting environmental awareness campaigns through seminars and trainings. She posed a big question however. "After the training or seminar, then, what?" She related that she had attended seminars and workshops which were very well conducted and organized. She enjoyed the interaction as well as the participation in the formulation and designing of solutions to problems. Yet she can not help but be skeptical. "But after that, what?"

Theme 3: *Raising people's consciousness*

Arlene threw the issue of implementation on the "higher-ups." She brought forth the problem of the sewerage system in Cotabato. According to her, this is a problem which they tried to fix so many times but they had been unsuccessful. She felt that there has been no genuine effort to solve the problem. I commented that if everybody does not get involved, as when one sector may attempt to keep the surroundings clean while others simply do not care, then, the effort becomes futile.

In spite of these frustrating realities, Arlene still asserted that "we really have developed in a way." She mentioned that there had been training, workshops and seminars conducted by agencies such as the DENR (Department of Environment and Natural Resources), DA (Department of Agrculture) and DOH (Department of Health) as well as the Peace Education program in the university where she obtained her EdD, which have raised the people's level of consciousness. She viewed this as a part of the development process.

She also added that there are industrial firms that pose health hazards as evidenced by people experiencing rashes due to allergies caused by emissions or industrial wastes. Arlene bewailed the fact that there seems to be nothing that is being done to counteract these effects. She criticized these business companies for not installing protective measures to safeguard the health of the people. She explained, "The mining companies insist that this is why there is development but this is at the expense of the people living in the area. Hence, real development is hampered because of that."

To Arlene, this kind of development is not sustainable. She reiterated the need to raise the people's consciousness on environmental issues. While there are programs towards sustainable development, she claimed that more often, "these are better said than done because no matter how hard people work if there is no support for the implementors, then, the attainment of objectives remains to be seen"

Arlene goes back to the development question with more doubts than answers. She voiced out her concerns: "Year in and year out, we have these programs. We campaign for sustainable development. I also want to know, how much have we achieved?"

TINA

In my first conversation session with Tina, she recalled that sustainable development was one of the topics that they discussed in one of the courses she took for her doctoral program. In terms of seminars, she claimed that they have not really gone through it in-depth because as she put it, "if it is purely a seminar, you don't get to have a feel of the subject."

With 22 years of experience teaching English, Tina's insights on education in general and education for sustainable development in particular are a reflection of her deep analysis of critical issues. From my conversations with Tina, we discussed as many as 18 topics from which the following themes have emerged:

1. The environment-development dilemma
2. Sustainable development and the alleviation of the plight of the poor
3. Filipino values and sustainable development

Theme 1: *The environment-development dilemma*

In assessing the environmental situation in Mindanao, Tina, like the other research participants pointed to the garbage problem as one of priority concern. She attributed this problem to the lack of a definite dumping ground for garbage as well as to the people's lack of discipline in the use of garbage bins. She claimed that they do not throw their garbage into the receptacles which have been provided for this purpose.

Along with garbage is the problem of pollution. Tina drew my attention to the Tucananes River where people used to get their drinking water and where shellfish used to abound some years back. But things have changed. Tina claimed that since small boats dock in the area, toxic wastes are dumped into the river. Added to this is the garbage thrown by the households lined along the river bank. Likewise, Tina noted with concern the increasing number of vehicles which had contributed greatly to the gaseous emissions or exhaust. On the other hand, Tina expressed the view that forest denudation is still not much of a problem in Mindanao. She believed that this situation has been prevented at an early stage through a log ban which had been enacted as the issue of the environment was picking up steam.

Tina recalled that there had been measures to address the problems of garbage and pollution. She described the project undertaken by Kalinisan, an NGO headed by the parish priest of Cotabato City. Through this project, garbage receptacles were distributed in various areas of the city. However, Tina felt that the number of receptacles was not enough. People's attitudes have not also changed despite a massive information program.

With regard to the long-standing pollution of the river, she observed that there has not been any action from the government. According to Tina, a portion of the river had solidified as a result of the toxic wastes and the garbage that have been dumped in the area mainly because there was no dump truck to collect them. Furthermore, the people do not really know how to dispose their garbage properly.

Tina argued that the so-called signs of development like advanced technology, big buildings, modern facilities are superficial forms in that they symbolize "development that is only at the surface." Too often, these have an impact on the environment which is not readily seen by the citizenry. She cited examples to prove her point. Through a program on television, she learned that based on the findings of an audit team inspecting the A-1 hospitals in Manila, nothing was being done to safely dispose their wastes. Yet, these are the hospitals that are well-known for their use of high technology. In a related vein, the construction of big buildings has led to the cutting of trees thus, affecting the forests and the environment. Tina argued that this kind of development can not be considered sustainable.

Theme 2: *Sustainable development and the alleviation of the plight of the poor*

Tina asserted that development should not only be for the affluent but it should also be for the alleviation of the sufferings of the masses. To Tina, if a development project leads to the people's further relief from economic burden, then it is well on the road towards contributing to sustainable development. Commenting on the idea of opening the municipal waters to commercial fishing, she asked, "How can our small fishermen cope with these big people who have the capital and the modern technology?" She pointed out that development strategies like this, aggravate the conditions of the poor.

Tina claimed that the Philippines is rich in both natural and human resources yet it has lagged behind her neighbors in economic development in Southeast Asia. She brought out the situation of overseas workers who "are being used and abused in other countries because we cannot keep them." She was alluding to the plight of many migrant workers who suffer exploitation in foreign countries.

Theme 3: *Filipino values and sustainable development*

Tina wishfully remarked that if she were a superman, she would like to be able to turn the world around and get back to the past. She explained that "it's because by signing ourselves to the IMF, we had decided on one thing that had affected our future." I pointed out how ironic it is that these international financing institutions which have been designed to give assistance to developing countries like the Philippines have been perceived as doing more damage to the recipient country and its people. Tina is of the opinion that foreign aid has been detrimental to the poor but not to the rich who happen to be recipients of the "good things." To illustrate her point Tina asked, "What factory or business is owned purely by a Filipino?"

Tina went further to explain that this is not because the Filipino is not a good business entrepreneur but is only ""handicapped in terms of capital." She added that she found it odd that the high quality products are the ones that are exported abroad while those of poor quality are the ones for the domestic and local market. It would be difficult for Filipinos to appreciate their own with this trade practice. Tina opined that this profit-oriented mentality of the Filipinos was the influence of foreign capitalists. As a consequence, some Filipinos also think it is better to patronize imported goods.

I affirmed that it is indeed lamentable to note that the colonial mentality of the people which has grown with the years of colonization, does not only bring about a valuing of things foreign but also a disdain for their very own. This attitude has a great impact on our way of life and this could not be better demonstrated than people lining up at a Macdonald outlet to which Tina was quick to add, "and they no longer patronize our *biko, suman, puto and bibingka* (Filipino native delicacies).

This point in our conversation led us to link the issue of language in development. Tina related that in one of her courses, she argued with her professor on this issue by taking the stand that one does not become less nationalistic by using a foreign language like English. She justified the use of English by mentioning the fact that with the linguistic diversity of the regions in the Philippines, communicating in the national language is far more difficult than doing it in English. She cited herself as an example saying that as an *Ilongga* she can communicate better in Ilonggo, her first language, or English which she learned in school and which she teaches, than in Filipino and this could be true to Filipinos who are from outside the Tagalog or Metro Manila area.

I expressed my opinion on the matter saying that in a way, language does have an influence on our modes of thought. When we teach the alphabet to a child and say that *a is for apple* instead of *a tulad ng atis,* somehow, the child sees a world of apples, hotdogs and hamburgers. His/her native fruits and food are relegated to the background because language, being culture-bound has an embedded influencing power that affects his/her way of perceiving the world, attitudes and lifestyles. Tina agreed that this process could indeed indirectly bring about an unintended outcome. We concluded that since language has this tremendous influence, its role in sustainable development can not be ignored.

We moved our conversation further along this line. Tina related her observations about Filipino values and realized how these could shape the lives of the young in the future.

> *I think of our children, the young people who will inherit the same values, the same attitudes, the same ideologies. And they will be the leaders tomorrow. What happens if they have the same values like our politicians? How can development be sustainable?*

She further reflected on the situation and pinned her hopes on government officialdom.

> *If we think critically right now, sustainable development is just a dream, It is not yet happening. What we are witnessing is just superficial. But its effects later on, though these are not visible yet. I don't know. I hope that our government officials could think of something. So, let's do something about it.*

She also stressed the need for change. She mused, "If it's really true development, this move...the SPCPD, I'm not saying I'm for or against it. I'm just hoping it will be the start for a change because there's really an urgent need for change."

BERNIE

Bernie has been teaching Engineering courses since he got his Licensure in Civil Engineering. He confessed however, that he has not attended any training, seminar or workshop related to education for sustainable development. As a government employee, he has participated in the Tree Planting Program of the government. He proudly informed me that they just had their tree planting the month before.

My conversations with Bernie proved to be very interesting as these brought about the Engineering perspective. I have identified the following themes in relation to the concept of sustainable development:

1. Environmental problems and the needs of the future
2. Corruption, justice and development problems

Theme 1: *Environmental problems and the needs of the future*

Since development revolves around the environment and the use of resources, we started our conversation with Bernie's observations regarding the environmental situation in Mindanao. He focused his assessment in the province of Cotabato and described the present condition of the forests as partly denuded. He pointed to illegal logging as the main cause.

> *Regarding our forests, the problem is illegal logging. If you go around Cotabato province, you'll find the forests in some areas already denuded. There are some people who engage in the illegal cutting of trees. But there may be reasons behind this. One of the reasons why people cut down trees is the need to survive. To the big loggers or capitalists, that is a different matter. Surely, they do it to rake in more and more profits.*

We linked this situation to the construction of development projects like the Mount Apo Geothermal Plant since it entailed the cutting of many trees in the area. Although it has been claimed that the project will redound to the benefit of the people since it will provide for their power needs, to Bernie, this also means ultimately, the destruction of the forests. He suggested tapping other sources of energy like the hydroelectric power from the lakes which may cause less damage to the environment.

In terms of the condition of the country's marine resources, Bernie confessed that he was not familiar with the state of the region's coastal waters. He described however, two places which he was familiar with: a creek in Kappia and a marsh in the area where his family lives.

> *There is a creek that flows in the area. Especially during rainy days, this creek overflows. If there is fish that can be caught, it is not safe for human consumption because wastes are diverted into the creek. That is what I've learned from our fisheries and forestry faculty. That creek is the dumping site for the wastes from the industrial plants in Maguindanao. If industrial wastes are disposed in that area, any fish or other aquatic organisms are not fit for consumption.*

Bernie also related that they lived near the marsh. He remembered that 10 or 15 years ago, some people had fished using electric current. He had cautioned his brothers not to allow anyone to fish using this method because even the small fish are not spared from being caught. If this practice continues, he warned that there might be no more fish to catch in the future. Bernie's concern about providing for the needs of the future generation reflects his intergenerational concept of sustainable development.

This led him to relate a memorable experience using dynamite to catch fish in his younger days.

> *I remember this experience very well about the use of dynamite. Together with some friends, we set out to this area near Davao. I did not know that dynamite would be used for fishing. Moments later, I heard explosions. I soon discovered that even the very small fish were caught in the process.*

Looking back, Bernie has come to the conclusion that the lack of information or education could be the reason why people engage in illegal fishing. Expressing his deep concern for the future, he put forward this dimension of sustainable development.

> *There is a need to disseminate information so that people will become aware of the consequences not only to our environment but also to us, as a people. If even the small fish are killed in the process, what will be left for future generations? I think that in order to attain sustainable development, we should not only think of the present because our actions now may cause the suffering of our children and their children in the future.*

Bernie also made the observation that in the farms, majority of the farmers have been using chemical fertilizers and insecticides and although he could not categorically say that these have an effect on the soil's fertility, he believed that these will certainly have an impact on the environment. The possible decline in the soil's fertility therefore, could also mean a decrease in the land's productivity which naturally, would affect the future.

Like the other participants, Bernie noted with dismay the garbage situation and the problem of pollution in Cotabato City. Expressing his concerns over the increase in the population and the number of vehicles, Bernie is of the view that pollution and congestion could endanger people's health and their productivity in the future.

Theme 2: *Corruption, justice and development problems*

Our discussion on the effects of chemicals and modern technology on the environment had led us to shift our conversation to the government's vision of rapid industrialization in the year 2000 especially with Mindanao being groomed as the southern corridor for the country's trade relations with ASEAN (Association of Southeast Asian Nations). Bernie thinks that the program of the SPCPD (Southern Philippines Council for Peace and Development) is "good" in contrast to several other participants who critiqued it on sustainability and justice criteria. However, Bernie admitted that

> *if the incidence of graft and corruption is high and there is no efficient monitoring system, the project may appear just too good to be true. The program of the government is good if the budget for that purpose is spent wisely. But if it is not used for the project, it becomes just an exercise in futility.*

Bernie noted that government leaders often advocate the need to sacrifice for the sake of development but the leaders themselves often do not translate this into pracrtice. He asked, "People are expecting to see the outcomes of development but if our leaders themselves do not wish for development, how can we attain it? "

Bernie provided a very interesting analysis of the effect of massive logging by investors. He narrated that when he was growing up, sometime in the 1950s, he witnessed the operations of influential investors in the area. Logging then, was a thriving industry and at that time, loggers were amassing great wealth. The investors profited so much from the venture. It also created jobs for the people and this was perceived as very good for the economy. But logging led to a corresponding massive destruction of the forests. The recent flash flood in some areas of the region had been a consequence of forest denudation

Bernie believed that the effect of investments on the development of the country is often more disastrous because while it is claimed that they provide that special shot in the arm for an ailing economy, when the money is not used where it should be, then it could result in this scenario:

> *The environment has been destroyed yet the country has not recovered from being economically depressed. What is going to happen when we have not recovered economically and we are left with nothing? When we've got no more resources? This is really a difficult situation.*

Bernie has his own way of looking at why people who do something illegal can do away with the consequences. He explained that even if the forest guard is aware that there are those who cut down trees illegally, the offenders can always escape the penalty imposed by law. If it is a first offense, the case is usually settled and the accused are pardoned and advised not to do it again. However, if this is repeated, then, they engage in what Bernie calls the "under the table" deals. Bernie estimated that 15% is too high as the probable number of forestry people who do not engage in this kind of deals. To Bernie, corruption is the root of forest denudation and not the absence of provisions to protect the forests since there are laws like the log ban that are in place.

The malaise which has afflicted the Philippine justice system has been viewed by Bernie as a strong deterrent in the country's struggle towards development. He cited the failure of development projects to bring "true" development to the lives of the people. Bernie believed that the problem lies in the processes of implementation and monitoring which he illustrated through the following scenario:

> *There are times when the Central Office in Manila send their auditors to look into a certain development project in Cotabato. The agency concerned will then try to win over the auditor by giving him "special treatment". If the auditor is someone who is going straight, he will naturally decline. Thus, comes the superiority of the guns. A person who goes straight usually does not carry a gun. In contrast, those who are inclined to do unlawful things carry guns.*

Bernie felt that sometimes an individual's life is in danger if he/she does not "kowtow" to the whims of the power-hungry. This situation causes people to feel intimidated and to withdraw and remain quiet even if the unlawful acts are at their very noses. As a consequence, qualified, competent and morally upright people who deserve to become directors or department heads would not accept such positions even if these were offered to them because they know that doing so endangers not only their lives but also that of their families. This aspect complicates the situation because the system and the leadership assume the appearance of running smoothly since nobody dares to challenge or oppose the policies.

SARAH

Sarah welcomed the opportunity of becoming a research participant for she had just attended a one-month training on sustainable development held in Davao City, one of the big cities in Mindanao. The Mindanao Educators' Training for Environmental Planning and Management for Sustainable Development sponsored by the University of Southern Philippines, the Environmental Management Bureau and the Development Academy of the Philippines was attended by faculty members from the different universities and colleges with the expectation that at the end of the training, teachers would be able to "integrate sustainable development in the different subject areas."

Sarah shared her experiences as an instructor and administrator. Her insights into the significance of integrating environmental awareness in the different subject areas showed her concern for the protection of the environment. From my conversations with Sarah, I identified the following themes:

1. The preservation of resources and sustainable development
2. Environmental problems arising from the city's rapid growth

Theme 1: *The preservation of resources and sustainable development*

Having the opportunity to visit many places in the country, Sarah is proud of the richness and the diversity of the resources in these areas. Mindanao, for instance, is a region with a wealth of resources. However, she sadly reported that the environment in Mindanao has deteriorated mainly due to the problem of illegal logging which has resulted in the destruction of the forests. She felt consoled however, that the situation in Mindanao is considerably much better than in some areas in Luzon. She attributed this to the efforts of the Department of Environment and Natural Resources and the Department of Agriculture in implementing a program of reforestation. She claimed that through this program, trees lost through illegal logging have been replaced

Sarah noted that other places like Baguio City (a city in the northern part of the Philippines dubbed as the summer capital of the country because of its cool climate) have become very warm because the trees have been continually disappearing as a result of illegal logging. She strongly advocated reforesting these areas so that the situation could be reversed. Sarah proudly claimed that there is no illegal logging in Lanao del Sur where she hails from. That is why the place is very cool because the forests in the area have been preserved. I commented that it was comforting to learn that the people there really know how to value their environment because they have been able to protect their forests. Sarah explained that in Lanao, families have their own definite areas. Nobody is allowed to enter another area without permission if she does not belong to the clan. The residents exercise control over their own area so they are able to protect their forests from illegal loggers.

Sarah however, was not too happy about the state of the coral reefs in their coastal area of Malabang, Lanao del Sur. She reminisced with nostalgia how beautiful the coral reefs had been before these were washed out by the tidal wave of 1976. She reported though that there are places like Balabagan (a coastal area in Mindanao) where the coral reefs have been preserved.

> *The coral reefs in Balabagan are very beautiful. You can see them through the water which is very clean and very clear. You can even see the big stones underneath. In that area, the coral reefs have not been disturbed. There are areas where they have been preserved and this is one of them.*

Sarah agreed with the information I have read that the Philippines has one of the richest and most diverse coral reefs in the world. She strongly advocated preserving our resources so the future generation could enjoy them, too. She enthusiastically added that during their training, they visited Pojada Bay in Davao where animals like lizards could be seen just roaming around. The people in the area just allowed these animals to move about unlike in other places where they throw stones at them.

Of all the places she has visited, Sarah claimed that Puerto Princesa City in Palawan (an island province in Central Philippines) is the most beautiful. She expressed admiration for the place for its cleanliness and its rich natural resources which the inhabitants have been able to preserve. This was made possible through a strict enforcement of regulations. She described the place:

> *They really preserve their forests. If you are a visitor, you cannot take out for example, any of their orchids. They make inspections in the plane. Nobody is allowed to take any of the animals there. That's why you can just see the monkeys frolicking and lizards crawling at your feet. They seem to have gotten used to people because the people just leave them alone. They just roam around and move about. I tell you, it's a very, very beautiful place.*

Theme 2: *Environmental problems arising from the city's rapid growth*

As with the other research participants, Sarah considered garbage as a major problem confronting the city. She pointed out that it is brought about by people who do not know how to dispose their garbage properly. She is of the opinion however, that with the "Clean and Green Program" launched by the government, the garbage situation has slightly improved.

Sarah observed that Cotabato City has grown so fast in the past two years because of the rapid increase in population partly as a result of the movement of people from the uplands to the city. The attraction to move from the rural to the urban centers is sometimes due to the fact that development is often concentrated in the city to the neglect of the countryside. Yet, sometimes the people's hope for a better life in the city becomes more of a nightmare than a dream. Sarah added that this has a great impact on the environmental situation. Because of overpopulation, pollution has become a serious problem. Due to the congestion, many have built their houses along the river bank. Making the situation worse are people throwing their garbage anywhere so that the water in the river has become so dirty and murky. People build their houses along the river because they do not have a place to live. They refuse to go back to the mountains where they have come from because they have no source of livelihood there. Hence, there is congestion in the city which is complicated by the increase in the number of vehicles. She explained, "During the past two years, there was no traffic. Now, there is this sudden increase in the number of vehicles. That's why we have traffic problems now like in Manila."

To Sarah, the environmental problems arising from the city's growth makes education for sustainable development very relevant in the schools.

JOYCE

Joyce has several years of teaching experience in both the secondary and tertiary levels. She has attended several seminars on environmental education and has tried integrating some of the environmental education concepts in the subjects which she teaches.

As a lover of nature, Joyce has climbed Mt. Apo twice and described the experience as truly exhilarating. She expressed her disappointment though, over the changes that have been made on Mt. Apo as a consequence of development.

I was able to identify two themes from my conversation with Joyce on the concept of sustainable development. The photos taken during her visits to Mt. Apo which Joyce brought made our conversation very animated and exciting. From the 10 topics we touched on, the following themes emerged:

1. Nature as God's gift
2. Valuing the country's resources

Theme 1: *Nature as God's gift*

Joyce considered the beauty of nature "as a free gift from God and if people only realize this, then maybe, they will see to it that they shall not neglect the environment." As a valuable gift, if this is not well taken care of, the receiver offends the giver of the gift. Joyce argued that "not taking good care of this gift is a sin against God."

With this as a premise, Joyce explained that not disposing garbage properly demonstrates this lack of concern or indifference to the situation of the environment. She reported that in their barangay, a survey was conducted which aimed to find out how the residents disposed their garbage. She could not quite remember though, if this was a survey conducted by the Department of Environment and Natural Resources or by the city government. Unfortunately, there was no follow-up to this survey.

Joyce pointed out that when people regard the earth as God's gift, they hold it as a sacred duty to protect it. Unfortunately, people do not seem to see it this way. She related that although there are sites around the city where the people could drop off their garbage, she had observed that some people still do not throw their garbage on the designated areas. So, these are left on those spots for days because they are not in the garbage collectors' routes. This often made the surroundings look and smell awful. This is proof that some people are unmindful of this spiritual link as they do not see it as an offense to Him who created the earth, the trees, the rivers and lakes. Joyce believed that this alone makes education for sustainable development very relevant and urgent. By teaching the younger generation to throw their garbage in their proper receptacles and thereby developing the habit, she felt strongly that they can protect this God-given gift.

She advocated that such training should start in the homes where faith in God is initially taught and nurtured.

Theme 2: *Valuing the country's resources*

Joyce was not too happy about the condition of the forests because these have been denuded. She expressed disappointment over the fact that people sometimes think of development in economic terms but they ignore its effects on the environment and the ecosystem. She gave as an example the impact of foreign investments on the environment. To her, it is very ironic that people feel very happy when foreign investors come into the country. Yet, they do not realize that the country's resources are being used up by these investors who become very rich while the poor citizens languish in their unchanging economic condition. Joyce also pointed out that some development projects also bring about pollution and health-related problems.

While Joyce expressed that she longs to see the country also progresses like those in the First World, she would not welcome industrialization if, in the process, the resources or the environment would be sacrificed. She pointed out that with the denudation of the forests, people suffer the consequences such as floods and pollution. She further explained this aspect of pollution by focusing on the function of the leaves of the trees. Because the leaves give off oxygen, they help to freshen the air. She added that trees likewise, help reduce noise pollution.

Joyce contended that people just keep a blind eye on the deplorable condition of the environment because they have not internalized the value of their resources. They have not learned to appreciate the importance of the forests nor the richness and beauty of their coral reefs which have been slowly disappearing. They also engage in illegal fishing and seem to have forgotten the needs of future generations. Joyce advocated educating the citizenry simultaneously with the steps towards industrialization. She felt that development becomes sustainable only if it does not cause damage to the environment so that the resources could still be used and enjoyed for many generations to come.

ALI

Ali was grateful to be one of the participants in the study and claimed that he had always been "supportive of anybody who is working for the advancement of education and development." With Social Forestry as his major field in his masteral program, Ali has been trying to improve or re-engineer their curricular programs in their college and to gear them towards sustainable development. He explained his rationale for attempting these changes thus: "When needs arise, we take action because some concepts in the curriculum are no longer relevant to the present context." He claimed that he found my research very much related to what they have been doing.

Ali was also one of the participants in the training program sponsored by the Department of Environment and Natural Resources. According to him, the Mindanao Educators' Training for Environmental Planning and Management for Sustainable Development was designed to address the needs of academe. In this training program, they made suggestions on how to treat particular situations regarding the environment and provide consultancy in the programs for sustainable development.

We covered many topics in our conversations. From these topics, I identified 3 themes which are relevant to the study.

1. People and resources as partners in sustainable development

2. Political leadership with a strong religious/moral base as the key to sustainable development

3. Peace as a major element in sustainable development

Theme 1: *People and resources as partners in sustainable development*

In response to my question on the scope of Social Forestry, Ali explained that in the past, in environmental programming, the forester was regarded as the police who arrested the people who cut trees illegally without analyzing why they do so. With the problem critically analyzed, this notion has changed and a new way of looking at the role of the forester has emerged. According to Ali, Social Forestry is another area in the field "where we look at foresters, the DENR, trees or the forests and the people as partners." It is an interesting field in relation to sustainable development.

Ali explained this relationship between the people and the forest by showing how they are intertwined. In the past, upon clearing the forests and after using the land for farming, the people would move to another area without leaving any forest crops to sustain the fertility of the land. Through the Department of Environment and Natural Resources and the academe, people, whether uplanders, migrants or indigenous, learn ways of farming that will not destroy the forest crops so the ecosystem could be maintained. In this system, people learn how to maintain their land so they no longer need to move to other places. The forest is protected and people learn to appreciate their environment. To Ali, this symbiotic relationship between people and their resources is the basis of sustainability.

Theme 2: *Political leadership with a strong religious/moral base as the key to sustainable development.*

Our conversation on the forest situation brought us to the issue of development projects. Commenting on the development scheme of the national government and its vision of rapid industrialization by the year 2000, Ali focused the discussion on the role of political leadership on development. But he stressed that he does not question industrialization "as long as it is not destructive of the environment."

Ali illustrated this role of political leadership with an example.

> *If it emits pollutants, then, that is damaging to the environment. But we have laws that protect the people and industry. For as long as the business firm has its CEC - Certificate of Environmental Compliance, then, there's no question with that. We can control the air pollutants in the atmosphere if there are safety nets made. But we need political support to have that. Often, with violators of the law, they would say 'we can talk this over'. So if there is no political will, we would not be able to protect the environment.*

Ali did not lay the blame for the deplorable state of the environment on the politicians alone. He expressed the view that even if there are good laws, if the people do not obey them, no matter how good these laws are, any scheme of development will end in failure. He argued that leaders need religious and political support to be able to enforce the laws. Ali maintained that "an individual person can not run a venture without good blessings." Hence, if the people would firmly hold on to what they would like to happen, then that leader will certainly respect the people's will. Ali's view of leadership therefore, is reflective of the need for mutual respect and responsibility between the leader and the governed. He firmly believed that if this kind of leadership had prevailed, then environmental problems such as "the death of the Pasig River would never have happened.".

Ali added that sincerity needs to be a component of good leadership. He recounted that as a young boy, he used to listen to the conversations between his father who is a lawyer and the people whom he used to meet everyday. He had always heard them say the word "datu". The people would talk about land so they would say, "Your land is from here to there" and this was what had been practised without the necessity of written documents. And yet, according to Ali, there was no war between families because the datus really meant what they said. He brought forward his observation however, that when the "educated politician leader" who became equal to the datu emerged, they began to encounter many problems regarding land. There were family feuds. He pointed out that "during the time of the datu, if there were family feuds, the datus would be called and after the decision has been made, that was the end of the game " He sadly noted that this is not the case anymore because the feuds have become endless. These experiences and observations have led him to believe that a strong political leadership is necessary to keep the development engines going.

Theme 3: *Peace as a major element of sustainable development*

In assessing the development status of Mindanao, Ali marks it as very low compared to the development status of other regions. What hampers the development process, according to him, is the social unrest. He believed the government is not to blame because even if there are programs designed for the region or even if what the people ask for is granted, it is also vital to look into the output of leaders. He lamented that in the city, people can not really see the signs of development and in many places, the essence of development is reversed. He explained his point thus:

> *Instead of developing the uplands so that people can produce more and will be encouraged to stay there, the situation now is they have been driven to the city, And the city now has become a concrete jungle dominated by human beings gone astray ---kidnappers, carnappers and hold-uppers. Yes, this is the reality.*

I clarified what Ali was trying to convey by bringing to his attention the Peace Accord being forged between the government and the Moro National Liberation Front. Ali stated that the government is not to blame and neither are the masses. He felt that the question of peace lies in the leaders because "if the political leaders, the ascribed leaders and the leaders of the armed groups really mean peace, then there's no unrest. We should be peaceful around the region." He did not judge the leaders solely on this score however. He demonstrated his understanding of their situation and even defended them saying that "they are just human beings and they can make the wrong decisions."

For further clarification, I asked what he thought were the root causes of the unrest or the lack of peace. Ali traced the origin of the unrest during the Marcos regime:

> *The unrest was born during the Marcos regime. I don't know if anybody would reveal these things. I was witness to several killing fields. I saw Muslims being hit by the mortar and their bodies were scattered all over.*

In his recollection of his experiences, Ali related that no less than his uncle was one of those who had been massacred by the military. But Ali's forgiving nature surfaced once more dismissing the incident as "anyway that's in the past." He strongly believed that there is no problem between Muslims and Christians and that the problem lies in the interference of leaders. The big problem came about when the military launched an offensive. There had been indiscriminate killings and violations of human rights. He remembered too well a younger brother hit in the chest during one such military operation.

Ali recalled that because of the social unrest and the military presence, the farmlands had been abandoned. As a step towards peace, there was the order to surrender arms. The rebels surrendered their arms but they returned back after some time when they had exhausted the "benefits" from the government. Ali did not directly point to them as responsible for the loss of many things. However, he claimed people left their farms feeling helpless and frustrated because of the rampant stealing and other acts of violence.

With these tragic experiences, Ali confessed that upon his graduation from high school, he wanted to join the military. He wanted to play a role showing to the leaders of the community that not all Muslims are violent. Ali insisted that he could understand why the families of the victims reacted in the way they did. Likewise, he saw the side of the soldiers who were only obeying orders. But he could not comprehend how they could have "lost their faith as a brother." He asked, "How could they have killed their Filipino brothers?"

With the momentary silence that ensued, Ali wondered whether we have deviated from our research theme. I assured him we were still on the right track because we were talking about peace which is central to the development process. I realized that we have spent more than an hour in our first conversation session. I thanked him for his willingness to participate in the research and for taking time in spite of his busy schedule to attend the first conversation session.

REFLECTIONS

The teacher participants in the study have spoken about their own understandings of the concept of SD in their stories and reflections of their everyday realities and lived experiences. Interestingly, as we brought into questioning the meaning of SD which is the object of the research inquiry, we unraveled several contradictions which enabled us to locate and untangle the layers that obscured our understanding.

Through the hermeneutic conversations with teachers who were assumed to be teaching ESD in their respective schools, the meaning of SD was explored. The rationale behind this hinged on the notion that an understanding of SD is necessary before one can teach ESD. In this hermeneutic inquiry, we were guided by Gadamer's (1988) reminder that understanding arises from a genuine desire to know. It begins "when something addresses us" (p.266) or when something hits us like the "unanticipated eruption of long familiar threads of significance and meaning in the midst of a wholly new situation" (Jardine, 1998, p.40). The desire to know brings something into question, one that "arises from a negativity of experience" (Gadamer, 1988, p.329.) or that "breaches the smooth front of popular opinion" (p.329). Thus, in this inquiry, what was brought into questioning was the concept of SD, expressed more explicitly as, "How can development be sustainable?" The questioning not only arose from the perceived contradictions embedded in the two words that make up the term, "sustainable development" but also from what have been viewed as contradictions in practice. By bringing our awareness, knowledge and experiences of the world around us into language, as participants, we reached agreement about SD as the object of conversation which brought the possibility of understanding as a "fusion of horizons" (Gadamer, 1988, p.273). Through language, we brought into the conversation our shared knowledge and our reflections of our everyday experiences not only in school but also in the wider community and in the process, the voices that make up our stories, could speak and be heard again. What was brought into illumination regarding the concept of SD is summarized in the sections that follow:

The Teachers' Understandings of the Concept of Sustainable Development

Several themes were identified from the many topics that emerged in the hermeneutic conversations I had with the teacher participants in the study. Because these themes were linked by a common thread in the form of our shared knowledge and understandings as educators, these were summarized into broader categories as the dimensions of SD. The categories, however tend to overlap and are very much interrelated so they should not be seen as standing on their own.

To the teacher participants, SD has several dimensions. These were referred to as ecological, values, futures, economic, social, political, cultural and moral/spiritual. In SD literature, one finds that development planners, educators, philosophers, writers and critics also present the concept of SD in terms of broad categories or its dimensions. Viedermann (1996) referred to economic security, ecological integrity and democracy as the "pillars of sustainability." Goulet (1996) used the term "domains of authentic development" to include economic, political, social, environmental and cultural as constituting sustainable development. De la Court (1993) brought a similar set of dimensions in his paradigm of sustainability while Philippine Agenda 21 (PCSD, 1996) lists the "parameters" to make development sustainable as economic, political, cultural, social, science and technology, ecological and institutional. In this section, dimensions are also used for the categories of SD themes in an attempt to clearly present the participants' understandings and my reflections of the concept of SD.

The ecological dimension: All the participants expressed in many different ways that the environment is at the center of SD. To them, the environment is made up of natural resources, living and non-living. Human beings and other organisms are part of this environment. Jerry invoked "nature" while Teresa called her "Mother Earth." Kris was concerned about "the flora and the fauna" while Joyce talked about "God's gift." Fatima expressed compassion for stray animals "because they are still part of the environment." On the one hand, Estela explained why there was so much fuss about eagles in a poor country to indicate a valuing of all that constitute the environment. Arlene bewailed the garbage in her "surroundings" while Jenny deplored the pollution in the "air we breathe." Sarah described the beautiful co-existence of human beings and animals as "you can just see the monkeys frolicking and the lizards crawling at your feet," while Ali stressed the affinity of the people with the forest or the land. Bernie shuddered at his recollection of the "very small fish" that perished in his experience of blast fishing in his younger years while Tina and Alex talked about the use of resources to improve the economy and alleviate the plight of the poor. It is interesting to note that each participant had his/her own way of looking at the environment. In many instances, they viewed the environment and the issues that revolve around it from the perspective of their own specific disciplines.

Apparent in how the environment is regarded by the participants is the notion that it encompassess all that surrounds them- birds, trees, air, land, organisms, people and others. At the same time, they imply a relationship which does not put them at the centre of the ecological spectrum that privileges them to dominate and control it. Rather, the participants expressed a sense of belonging or affinity to their environment in the concept of a "home place" (Bernard & Young, 1997, p.103), one which is physically tangible to them where they feel grounded or connected with all that constitute it. Jardine (1998) conveys a significant insight into this notion of belonging: "Mindfulness of our rootedness in Earthy experiences is a breakthrough to the belonging-together of things that goes on without us, without our doing" (p.87). This, in effect, enhances our understanding of how the interrelationships and interconnectedness of all things are traced to our rootedness in the Earth. Environmental issues carry common threads that transcend geographical or socio-economic borders. What others experience, as in environmental disasters, is not their experience alone. It becomes an experience for all those "rooted in Earth" be it acknowledged or denied.

The participants brought into language this relationship to the environment. Jerry presented his philosophical view of "flowing with nature." He had made reference to the Taoist concept as drawn from the philosophy of Lao Tzu, of the *Tao* or the *Way*. This is explained in the analogy of the field where "ten thousand things" grow (Lau Tzu, 1992) Barren in the winter but buzzes with life in the spring, the field

> ... continues throughout the summer to care for and nourish each of its children supplying them with the water and nutriments that are vital for life. And in this nurturing work, the field cares for all the flowers without discrimination and it takes no credit for all that it does. The brown soil is always in the background and "unseen," our eyes being dazzled by the colors and forms of the flowers. Finally, the field accomplishes all that it does "without taking any action" (wu-wei), that is to say, we never see the soil "actively doing anything"; all that happens seems to happen on its own "by nature." One of the things said about the Tao in the Lau Tzu a number of times is that it "does nothing" and yet "there is nothing left undone." (p.xxi)

Teresa called her "Mother Earth," as contained in her admonition, "If we take care of Mother Earth, she will take care of us." Although she appropriated the female symbol, perhaps much to the discomfort of some ecofeminists and could prick the sensitivities of her Filipino counterparts, it was with a sense of pride that Teresa called the planet "Mother," a role with nuances and traces that could be grasped with greater appreciation within the realities of her own setting. Kris, with her background in Natural Science, expressed concern for "balance and the preservation of life" with balance associated more with the maintenance of biodiversity in the ecosystem to keep the food chain going thus, guaranteeing the preservation of life. Related to this was Estela's interest in saving endangered species expressed in the proposition that "if eagles disappear, then we will also disappear." Likewise, Fatima's advocacy of a "paradigm that upholds life" which she generated from her observations of her everyday realities such as her students' spontaneous reaction to the gecko, the neglect of stray animals and the mockery inflicted on mental cases, reflects a concern that borders on a relationship of oneness with all those "rooted in Earth." In all their stories, the participants spoke of "environmental care," "protection," "preservation," "conservation," "wise use of resources" and "enhancement" as a way of maintaining this relationship with the environment.

The values dimension. Environmental care was viewed as very crucial in attaining SD. Faced with environmental problems like garbage, pollution and forest denudation, each of the participants has his/her story to tell about them. Considered as the most serious problem, garbage was seen as a result of the people's lack of discipline, education, knowledge and the laxity or indifference of law enforcers in the implementation of laws and regulations. The onus of keeping the surroundings clean was generally pointed at the governed. Jenny claimed the problem is "rooted in the individual" while Joyce deplored "some people's lack of cooperation." Teresa and Tina believed that the government has done its part for providing "garbage receptacles" and Arlene expressed dismay that the problem has remained in spite of the many attempts to solve it. To the participants, the garbage problem rests on the people and is attributed to the lack of proper values as well as education.

Interestingly, a citywide waste management program was implemented a few years back headed by the parish priest in the diocese who headed an environmental NGO, "Kalinisan." The program generated a very enthusiastic response from students, teachers, and people from government, business and industry. Street sweepers hired to clean in designated areas were trained to educate the people living or working in these areas. This was enhanced by an intensified information dissemination campaign. A one-day clean up every month and on special occasions involved volunteers from various sectors of the city. When the funds however, were exhausted, the implementation of the program was handed over to the city government and since then, the cleanliness campaign could not be maintained (Interviews: Kalinisan Chairperson, 10-10-96; PEC Director, 10-10-96). The interest waned and the city was back with its worsening garbage situation. During the data collection process, the city has adopted a "clean and green" campaign to deal with the garbage situation. However, the garbage problem was still a big environmental issue for the teacher participants.

What had gone awry with all these serious concerted efforts of government, NGOs and civil society to create and maintain a clean and green community? Kalinisan's chairperson (Interview, 10-10-96) gave his own interpretation as to why the problem has persisted through time by identifying the constraints in the cleanliness and sanitation effort of the organization.

> Number one was culture. The Maguindanao people have lived with nature for a long, long time and they thought nature could take care of everything, for after all, nature just takes care of it. But that was before. When plastics were not yet invented, nature will really take care of all the things we throw from our window. But now, we have so many plastics, glasses, and others. Nature can hardly cope up with that. We've been telling them that. Second is also the sewerage system, cleanliness and proper hygiene. Practically, the Maguindanaoans don't have any toilets. That's how they have lived for a long, long time. Now they come to the city as refugees and they carry over that kind of practice. Third, is the attitude of the people, they just don't care. They think that anyway, it's the job of the government, it's not our job. So we really had to educate them on those grounds. We implemented our program but these were the barriers we faced. A very big, big problem is...funds. As we went on with our program, our funds had been dwindling.

A reading of these texts discloses a few interesting points. The research participants attributed the garbage problem to some people's lack of discipline and this was echoed by a barangay captain and implied by the Kalinisan chairperson who is also the parish priest of the city. From their voices, one can recognize a recurring sense of frustration and a debilitating cry of hopelessness and helplessness. Why this problem of waste management seems too difficult to solve is rather puzzling since the task of disposing one's garbage is quite simple. Coming out also from the participants' narratives is the idea of a "they," who cause the problem, identified as those who lack "discipline" or education or knowledge and made more explicit by naming them as the Maguindanao people. This poses a contradiction since literature concerning the culture of indigenous peoples places them as closely connected to their environment and therefore, a greater valuing would be understood in terms of protection and care. The analysis of the Kalinisan chairperson offers illumination: They could not cope with change. An aspect of the indigenous people's culture finds them stuck on the notion of relying on nature to clean up their mess. In his view, this attitude explains their inability to cope with the rapid change brought about by the advancement of science and technology. But, exploring this further, it could be interrogated: Why could they not cope with change?

Magpantay's (1990) evaluation report on the case of the Mt. Apo Geothermal Plant Project reveals the situation of indigenous peoples which may offer a valid response to the question at hand. He wrote:

> The extent of the indigenous people's neglect by the government can even be seen by the fact that there are no statistics on the relevant socio-economic indicators that will measure their underdevelopment...Even in the areas where the indigenous peoples have settled, the government's presence through schools, health centers and other service institutions are almost non-existent, except in times of calamities and disasters (p.9).

By unveiling the various layers that obscured our understanding of the garbage problem, the issue of structural violence disclosed itself. Structural violence, as defined by Webb (1986) refers to "the damage that occurs to individuals or groups due to differential access to social [and economic] resources which is due to the normal operation of the social system" (p.431). In sum, there is a tendency among the educators to attribute some ecological problems to a lack of individual discipline or related values deficit when in reality, the existence of unequal social and economic structures and their integration with the values dimension need to be taken more fully into account. Nevertheless, on other environmental issues, the ecology-structural violence interrelationships are better understood.

Forest denudation was considered as another serious environmental problem by the research participants. They differ however, in their views regarding the extent of denudation in the region. Teresa, Sarah and Tina believed that much of the forests in the region have been saved due to the enactment of a log ban. However, Teresa expressed her belief that the floods which have been experienced in other parts of the region were due to illegal logging mainly by logging companies. This finds support in Wallace (1993) who pointed out that even with the existence of a log ban, rampant illegal logging had been taking place which accounted for the flashfloods in some areas of the region. Furthermore, he explains:

> Bans have usually been imposed with the intent of conserving remaining forest resources but the results have often been the opposite. With bans, private entrepreneurs have no incentive to protect the forests and public guardians have been unable to prevent illegal logging. Without protection, bans create open access rather than preserving forest resources. (p.13)

Log bans do not totally stop forest denudation. According to the RP-German National Forest Inventory, denudation was fastest in provinces where logging was banned (Nuyda, 1996).

Sarah claimed that there was no illegal logging in Lanao del Sur, the province where she hails from. She explained that in their province, families have their own specific areas and only those who belong to the clan can enter the area. Since the area is under the control and supervision of the residents, their forests have remained untouched by illegal loggers. This point however, was in contradiction with Umpa's (1994) analysis of the energy crisis in the area. It revealed that uncontrolled illegal logging has caused a decline in the volume of water flow as indicated by the water level on Lake Lanao. Although official records show no existing logging permits issued in the area and no upland agriculture or "kaingin" activities, he claimed that:

> However, local residents can attest to truckloads after truckloads of logs and timber products which were brought down from Marawi City and Lanao del Sur to Iligan City until 1992. Illegal wood pouchers, with chainsaws also exist in large numbers and many lumber yards exist in Marawi City and other municipalities of Lanao del Sur (p.4)

The activities of kaingeros were also brought into light but were considered as having a minor impact in comparison to the practice of big time loggers. Alex related a dialog he had with his father on why a portion of the forests in their area had been cleared. This led him to realize that there is a reason that goes beyond survival which explains why the poor cut down trees. He deplored the lack of a genuine land reform program which could provide the landless with lands to till. Even with the presence of a Comprehensive Agrarian Reform Program, the problem persists because the implementing process has been anything but encouraging (Hipolito, 1995).

Bernie's explanation struck to the point: "The rich do it to rake in more profits; the poor do it for survival." Jerry echoes the same view with a note to explain how indigenous people practice "slash and burn" agriculture. They clear a portion of the forests for agriculture. When the soil loses its fertility, they leave the land and move to another area so the soil replenishes itself. Ali added that with the emergence of Social Forestry as a discipline which regard people and the forests or resources as partners in the process of development, people learn alternative ways of farming so the ecosystem could be maintained. Indigenous people who do "slash and burn" agriculture need not leave their areas anymore. In this way, the relationship between the people and their environment is enhanced.

Social forestry which refers to "tree production as undertaken by rural people in their own initiative and in an organized way." (Hasan, 1990) was adopted as an alternative to the TLA (Timber Licensing Agreement) system which had led to massive forest denudation and other subsequent problems like soil erosion, loss of biodiversity and displacement of cultural communities. Letter of Instruction (LOI) 1260 issued in 1982 known as the Integrated Social Forestry Program responded to the need for change as the TLA system could not prevent the massive floods and soil erosion which had been going on decades before (Guiang, 1993). The Integrated Social Forestry program recognizes the role of the people in the uplands in rehabilitating denuded and marginal forest lands (DENR-DECS, March 1992). After the historic event in EDSA (the people power revolution which overthrew the regime of former President Marcos), there was a surge in the clamor for "pro-people, holistic, proactive, democratized and equity-centered approaches in development" (Guiang, 1993, p.5). This approach to forest management involving the participation of communities with assistance from NGOs has been tried in Indonesia, Pakistan (Asian NGO Coalition, 1990) and Bangladesh (Hasan, 1990). In the evaluative report however, it was recommended that the programs be further studied in terms of their long-term arrangements, project management and effects on farmers' income (Asian NGO Coalition, 1990).

Although most of the floods happened in other parts of the region, the teacher participants understood the hardships and sufferings of disaster victims. Estela confessed how she could not help muttering a cry of protest while listening to a DENR official's remarks in a radio interview about the reason why Upi, a municipality which is at an elevation higher than the outlying areas, was flooded. He claimed that the floods occurred because of the heavy rains. To Estela, the official discourse then, did not seem to recognize the link between the floods and forest denudation. She was happy to relate that in the case of the Ormoc floods, the most devastating flood to hit the country in 1991, which claimed so many lives and caused damage to property, the link was underscored. Media too, was active in reporting about the case. The flood was attributed to the deterioration of the area's watershed as a result of the conversion of its forest lands into sugar cane plantations. DENR records have shown that Ormoc's immediate watershed is owned by private landowners and therefore, reforestation rests in their hands (Severino as cited in Garcia, 1994).

Although a log ban had been enacted, the participants expressed skepticism over its full implementation. Arlene regarded this however, as an indication that 'we have developed in a way," in the sense that environmental problems are being brought to the people's awareness and are being responded to by authorities. Most of the participants however, harbored the notion that illegal logging still goes on. Teresa and Bernie believed that violators persist because some officers responsible for guarding the forests are in connivance with violators. Bernie expressed his opinion that corruption is at the root of the problem and not the absence of provisions or laws to protect the forests. The other participants concurred with this view. Fatima insisted that they have many good laws but the bottleneck always lies in their implementation.

A closer look into the reasons why programs designed to address environmental problems often end up in failure could be gleaned from their experiences in implementing one of the thrusts launched by the government in the past to address the problem. A nationwide campaign to plant trees came in the form of a requirement for government employees and students. A certification is issued once the requirement has been complied with. Arlene claimed that there were irregularities in the issuance of these certificates. But most of all, the process in itself was problematic. There did not seem to be a comprehensive understanding of the rationale behind the program. What only mattered was the certificate to prove that the requirement has been complied with.

The teacher participants' stories reflected the place of values in sustainable development. The clash of values apparent in the participants' stories of their lived realities is indicative of the many contradictions that surround the many sustainable development issues notably the issue of waste management and the conservation and protection of resources. As well, contradictions are also embedded in the implementation of programs and projects designed for environmental care and protection.

In unfolding the layers compounding the issue for further understanding, structural violence, pressed itself on the surface. Corruption, when explored further, assumes many faces and its intersections could be gleaned from the links that bind environmental problems and the disparities in the socio-economic structure revealing the contradictions in the values held by all sectors in the process of development.

The environmental issues are all interrelated and bound by a common thread. The violence perpetuated by the structures of society hinders the development process by directly or indirectly destroying the environment and the resources that are basic to the attainment of sustainability.

The futures dimension. Sustainability was interpreted by the participants as continuity, a process of going on, way into the future. Hence, for development to be sustainable, they believe it should not only meet present needs. It should also provide for the needs of incoming generations which refers to the principle of intergenerational equity. This is in consonance with the definition of sustainable development as formulated by the Brundtland Commission (WCED, 1987). Sustainable development refers to "development that meets the needs of the present without compromising the ability of future generations to meet their needs (p.43). Estela adopted this view adding that by taking care of the environment, the future generations will not only survive but will also enjoy a good quality of life. Joyce asserted that development becomes sustainable only if it does not cause damage to the environment such that the resources could still be used and enjoyed for many generations to come. Likewise, in recollecting his experience of blast fishing and realizing that even the very small fish were caught, Bernie asked, "How will our children react if we have exhausted all our resources and there's nothing left for them?" He stressed that to attain SD, "we should not only think of the present because our actions now may cause the suffering of our children and their children in the future." With the realities of environmental degradation and the growing scarcity of resources which often result in the spiralling cost of commodities, the participants expressed their concerns that at the rate the resources are being consumed, there will be nothing left for future generations.

The teacher participants voiced their alarm over the growing scarcity of coastal and marine resources. This was attributed to the destructive methods of fishing such as the use of dynamite, cyanide and muro-ami employed by the fisherfolk. Bernie likewise, related this problem to the lack of an awareness of the long-term effects of such illegal methods of fishing like the use of dynamite basing on his experience of blast fishing in his youth. These practices were regarded however, as the poor fisherfolk's way of trying to survive in a situation where his fishing grounds have been invaded by big trawlers plying in the area. As Jerry, Jenny, and Kris pointed out, there is a need to examine why the fisherfolk no longer catch the same quantity of fish they used to catch before.

The introduction of modern trawl fishing has definitely changed the course of fishing for most fisherfolks as they no longer catch enough for their family's needs. With an increasing number of trawlers owned by nonfishing businessman but operated by wage-earning crews taking over the poor fisherfolks' fishing grounds, fish stocks have greatly decreased. This is due to the tendency of big trawlers to overfish and to disturb the fish' breeding grounds. This situation aggravates the economic situation of the poor especially because much of the fish caught by trawl fishing are not sold for human consumption but land in factories to be used as feed-meal for animals (Khor, 1996; Soriano, Claudio & Fansler, 1995). Thus, with the intrusion of commercial fishing vessels, the use of illegal fishing methods and the conversion of mangrove swamps into fishponds, marine fisheries may have reached or perhaps even exceeded their limits of sustainability (DENR, 1989; Soriano, Claudio & Fansler, 1995).

Sarah expressed disappointment over the destruction of the coral reefs in Malabang, Lanao del Sur by the tidal wave of 1976. The coral reefs in the Philippines, acclaimed as one of the most diverse in the world, are being endangered. For instance, Tubataha, the largest coral reef atoll and the only national marine park was the object of a controversy between Shemberg Marketing Corporation, Asia's largest seaweed firm which had been planting seaweeds in Tubataha's reef flats and Tubataha Foundation, a private

Manila-based organization of water sports enthusiasts and sports fishermen seeking the preservation of the park's biodiversity (Arquiza, 1990). Likewise, the use of sodium cyanide to catch beautiful tropical fish for the aquarium industry causes also the destruction of coral reefs. This situation brings about a host of other problems like a decrease in the food supply, loss of income and higher unemployment, among others. An alternative way to catch ornamental fish using "fence nets" is currently being adopted after Filipino fishers underwent a training program organized by Ocean Voice International and Haribon Foundation for the Conservation of Natural Resources and the International Marine Life Alliance (Hunt, 1996).

The teachers pointed to the effects of chemicals and toxic wastes on rivers, lakes and streams. In our conversation, Jerry claimed that the use of chemical fertilizers and pesticides by farmers in their farms not only affects the soil but when floods occur, these chemicals could still find their way into creeks and rivers and marshes which could threaten the survival of life forms inhabiting them. Pollution caused by the dumping of garbage or industrial wastes also takes its toll on the survival of fish and other marine resources which basically constitute the people's nutritional source. Tina recalled that the river that runs across the city abounded with shellfish long before garbage and toxic wastes had caused its water to become dirty and murky. In the course of shedding light into the cause of the destruction of marine and coastal resources, the teacher participants unearthed the issue of structural violence.

The perceived uncaring and indifferent attitude of some people towards the state of degradation of the environment and the wanton destruction of resources was regarded by the teachers as being triggered by the engine of modernization which is being pushed by the government in its vision to attain NIChood. Strongly encouraged by the enviable successes of the Asian dragons, the national government seemed to be very obsessed with its vision of economic growth through rapid industrialization. Although documents like the Social Reform Agenda and Philippine Agenda 21 (1996) established the need to protect the natural resources and to address the issue of poverty while striving to achieve economic growth, some of the participants regarded the official discourse as a jumble of rhetoric, "substantial on paper but short in the process of implementation." Alex branded the SRA as "only pro-forma" on the part of the former president and just a way of making the people feel they are important in the eyes of the administration. He claimed that most of the policies of the government are "always for the interest of modernization." However, what Alex failed to realize is that the SRA is a product of initiatives by those comprising the basic sectors such as the farmers, fisherfolk, indigenous people and the urban poor as major participants. As the most comprehensive program against poverty, the SRA is the result of government initiatives and the concerted efforts of NGO-PO advocacy (Philippine Daily Inquirer, Oct. 1, 1996). What is problematic is the government's and elites' lack of effectiveness and sincerity in implementing the SRA.

The participants were concerned about the government's over-emphasis on economic growth. Skeptical over the reported rate of growth of the Philippine economy, as carried by the dailies, the teachers insisted that economic growth is always driven by the need to produce more and more goods which in turn results in the extraction of more resources. Kris alluded to this when she claimed, "often with economic growth, so many things are destroyed." She relates the issue further to the penetration of TNCs which she viewed as apathetic to the condition of the environment for as she put it, "they are only interested in the 'now'." Bernie provided a very interesting illustration of the effect of concentrating only on the present when he described the activities of big-time loggers when he was growing up. The investors raked in so much profits and the people were also happy because the industry generated jobs which, at that time, was perceived as very good for the economy. However, it was too late for them to realize that massive logging leads to a corresponding massive destruction of the forests which eventually caused the floods that brought misery and suffering to the poor. In the long term, what happened was the environment was destroyed "yet the country has not recovered from becoming economically depressed." In this situation, how will the future generations be able to meet their needs? Economic growth was therefore, perceived as incompatible with resource conservation, because it demands the unregulated utilization of resources to produce more and more goods. This is exacerbated by the consumerist mode promoted by the forces of globalization As needs are created, the demand for goods become greater and greater. This then, becomes the driving force in the depletion of resources as the urge to produce more and more goods is heightened. In the process, the concern for the needs of the future is more than likely to be buried under the folds of profit motivations. As critical analysts such as George (1987), Shiva (1999) and Suzuki (1997) have noted, such profit maximizing and over-consumerist growth cannot be sustainable.

The economic dimension. Sustainable development was considered by the teacher participants as the intertwining of environment and development. They elaborated on this view by qualifying their concept of development. They clarified that development should not be equated with economic growth which is often measured through economic yardsticks such as the GNP (Gross National Product or the GDP (Gross Domestic Product). Alex illuminated this point when he explained that an economist measures wealth in terms of "goods and services produced by the economy in a specific period of time." He opined that this economist's view of development is wanting in some aspects to be regarded as "sustainable" because it fails to address the environment and the needs of the future.

A perspective shared by the participants centers on the issue of poverty as stemming from the inequitable distribution of wealth or resources (Soriano, Claudio & Fansler, 1995). Jerry and Alex claimed that Third World poverty reflects the hegemonic structure of North-South relations. Likewise, in the local context, the ever-widening gap between the rich and the poor was viewed as due to the unjust structures of society

Most of the teacher participants, like Alex, believe that economic development goes beyond economic growth often equated with the symbols of modernization such as the number of flyovers, five-star hotels, plush resorts, high tech- and state-of-the-art communications and information equipment and gadgets. This image of economic development has been analyzed by them as the effect of too much emphasis on modernization strategies and is currently fanned by the forces of globalization.

The national government's vision of rapid industrialization by the year 2000 encased in the Medium Term Philippine Development Plan and conveniently dubbed as Philippines 2000 was brought into questioning in the course of our conversations. To Jerry and Teresa, embarking on a process of rapid industrialization before establishing a solid agricultural base is problematic. They believed that there is a need to improve agriculture to be able to provide food security for the people throughout the islands. It is ironic to note that in Mindanao which is the Philippines' agricultural export region, close to 27.3% of the people are classified as "subsistence poor" which means that they are unable to meet even just the minimum requirements for survival. (De la Rosa, 1996). This situation could be traced to the coming in of transnational agribusiness corporations, a development which has greatly affected the agricultural sector and people's lives.

With the rise of agribusiness, thousands of hectares of prime agricultural lands originally planted to rice and corn have been converted to pineapple, banana, rubber, oil palm and of late, asparagus and cut flower plantations which generally satisfy the demands of an export-driven economy. This poses a threat to the islands' food security as it causes a reduction in the harvest of staple crops and as a result, leads to soaring prices of basic commodities which is understandably brought about by their growing scarcity (Khor, 1996; Lehman & Krebs, 1996; Dahlberg, 1996; Third World Network, 1999). Likewise, agribusiness which requires vast tracts of land, has displaced the peasants driving them to the cities where they usually end up in the slums. To top it all, the environment is degraded because of the intensive use of chemical fertilizers and insecticides which comes necessarily as a result of adopting a monocropping system of farming (Redclift, 1984; Pretty, 1990; De la Rosa, 1996). Jerry and Teresa's view of improving agriculture aimed at uplifting the life of poor peasants stands in opposition to the operations of transnational agribusiness corporations which degrade the environment and rob the people of their chances to improve their living conditions while they and powerful ruling elites rake in huge profits at the expense of the poor (Toh, 1987; Khor, 1996; Lehman & Krebs, 1996).

Philippines 2000 is built on two principles: people empowerment and global competitiveness (Ramos, 1993; Llorito, 1994). It derives strength and support from investments to propel the economy. To most of the teacher participants, attracting foreign investors to the country does not augur well for the people. Jerry claimed that TNCs which are expected to generate jobs and to accelerate technology transfer usually enjoy a package of investment incentives like tax privileges as well as the easing of labor and environment restrictions. These incentives are usually offered by a receptive ruling elite. Likewise, these TNCs benefit from the fact that the host country also serves as a ready market for their goods signifying a requiem for struggling domestic industries (Goldsmith, 1996; Khor, 1996). Thus these ruling minorities "disproportionately appropriate the fruits of their country's natural wealth and the exploited labor of peasants and workers" (Toh, 1987, p.60).

The teachers are of the opinion that development to be sustainable should be for all. Most of them were skeptical however, on who benefits from the kind of development dominated by foreign investors. All too often, the fruits of development are in the hands of the TNCs and the ruling elites who guarantee the protection of the former's interests through the creation and legitimation of structures which privilege them to amass profits at the expense of the environment and the poor (Goldsmith, 1989). The Philippine Mining Act of 1995 for instance, enables foreign investors to exercise total control over mining concessions over a period of 25 to 50 years. Yet, Mindanao 2000, the region's development agenda lacks specific strategies to protect the environment in these areas (De la Rosa, 1996). Furthermore, with the new GATT and WTO regimes, transnational service corporations enjoy "national treatment" which means they are given the same terms accorded to local companies. Under the terms of trade and investments, no country will establish environmental or safety regulations considered to be against the principles of free trade and investments (Khor, 1996; Nader & Wallach, 1996).

The teachers were doubtful of the promised benefits of some development projects. Taking the case of the controversial Mt. Apo Geothermal Plant, Jerry contended that the project, designed to provide cheap electricity in the area, created greater problems for the Manobos. He was skeptical as to its benefits in terms of lowering energy costs. Arquiza (1990), writing about the project, supports this view that to the indigenous people living in the area, "the preservation of their culture is more important than electricity which they can not afford anyway" (p.38).

By unraveling the layers that constitute the teachers' understanding of the economic dimension of SD, several insights came to light. For development to be sustainable, the creation of wealth should take into consideration the environment and the people and that wealth should be equitably distributed. Likewise, several contradictions have been unearthed in the government's discourse regarding its development plan and sustainability.

The social dimension. The different dimensions of sustainable development often overlap as they are all interrelated. Social problems and environmental issues are trapped in this cycle of cause and effect. In several instances, other dimensions get inevitably tangled in the process. For instance, the problem of pollution permeates into social issues and other aspects as well.

Pollution as another environmental problem was seen as related to the garbage situation. The participants described this relationship in terms of solid wastes dumped and made to rot or harden along river banks which have become the dwelling places of those who do not have a place to live in the city. Sarah and Tina linked this to the rapid increase in the city's population as a result of the rural-urban migration flow. People have fled the countryside either as refugees (due to the social unrest in some areas) or as having been displaced from their ancestral lands to give way to "development projects." Air pollution made more pronounced by the stinking smell of garbage dumped anywhere and the gaseous emissions of smoke-belching transport vehicles or the wastes from factories and industrial plants, was regarded as posing a threat not only to the health of human beings but to other species as well. Bernie and Jenny deplored how "it affects the air we breathe" with the latter putting the rub on the effects of technology: "The more factories, the more wastes to be disposed of." Arlene mentioned the rashes or allergies suffered by people exposed to certain chemicals. In Tagum, Davao del Norte, the gold processing plants were alleged to have caused the mercury poisoning of school children living near the area (Philippine Daily Inquirer, Oct. 5, 1996; Oct. 12, 1996). In a related light, Fatima voiced her concerns about farmers not knowing how to protect themselves from the effects of the chemical pesticides they use in their farms. Studies support her contention that pesticides adversely affect the farmers health (The Manila Chronicle, July 14, 1993; Tjahjadi, 1990; MacNeill, Winsemius & Yakushiji, 1991).

The participants saw beyond the effects of pollution on people's health. They also pointed to it as causing the death of rivers, lakes and streams. In Marinduque province, the operations of Marcopper Mining Corporation, a Canadian-based company, has caused the death of two rivers (Philippine Daily Inquirer, Aug. 15, 1996; Oct. 18, 1996). The controversial fish kill which saw tons and tons of fish floating in the Manila Bay area in 1996 has been also attributed to pollution (Herrera, 1996). The problem has broader implications to the emergence of other problems like unemployment and overcrowding in certain areas and to the sustainability of resources which guarantees the means to sustain life.

A closer look into the texts of my conversations with the research participants revealed the deeper and more complex linkages the problem has with other issues. The rapid increase of population in the cities is attributed to the movement of people from the countryside to the urban centers. When this phenomenon was brought into questioning, the reason put forward was the lure of the cities. Fatima considers this rural-urban flow as resulting from this awed perception of "the beauty of modernization which the rural migrants consider as development." The opening of a MacDonald outlet and the construction of shopping malls with entertainment centers like cinema complexes are hailed as symbols of "development." Probing further disclosed the role of media in advertising and promoting this image of "development." Another angle that was brought forward is the ingrained idea that the city offers greater job opportunities which lead to more chances for economic advancement. This idea gets the big push from the drive to get out from the isolated hinterlands and the experience of abject poverty stemming from years and years of government neglect and broken promises. Yet, in many instances, these dreams of having a better life become more of a nightmare as they often end up in the filth and squalor of the slums.

A more important dimension to this rural-urban flow is the social unrest. Fatima described her experiences of people taking refuge in their family home as they fled from their communities in fear to avoid getting trapped in the sporadic encounters between the military and the Muslim rebel groups. Exploring the reasons for this unrest, Ali traces it to the intensified military operations during the Marcos regime but digging deeper would bring into questioning the history of Christian-Muslim relations.

Another important aspect of this rural-urban movement is the case of people being displaced from their ancestral domains to give way to development projects often, in the hands of TNCs or business firms owned by local elites with blessings from the government. The Mt. Apo Geothermal Plant Project is a case in point. Jerry mentioned about the Manobos being displaced from their own lands regarded as a sacred ground in favor of big business that was expected to generate electricity in the area. In protesting against this perceived violation of human rights, indigenous peoples are often threatened or intimidated by armed men to silence them (Arquiza, 1990). Thus, they are forced to flee their homes and seek refuge in the urban areas.

Other social issues were also raised by the participants in the conversations. The significance of the family as the foundation for the practice of sustainable living was underscored by Teresa as reflected in her own definition of sustainable development. To her, SD is the "concerted effort of individuals especially the family in order that they can control the rising cost of commodities, the worsening economic conditions...it is the wise use of resources, natural and human... for self-sufficiency and self-reliance." Her reference to the Earth as Mother Earth also indicates how she views her relationship with nature or the environment. As well, her emphasis on the significance of self-reliance and the role of the home as where children learn how to be self-sufficient by taking care of Mother Earth and on self reliance illustrates her way of looking at SD at the micro-level.

Interestingly, rapid population growth as an issue was mentioned by only one participant. Her stand on population maintenance and not control reveals the deep influence of the Roman Catholic Church which had vigorously opposed the use of artificial methods of contraception. Population control does not necessarily lead to the extinction of humanity unless this leads to zero population growth. With the world's population, projected to reach 6.3 billion by the year 2000 and with much of the increase coming from developing countries, many development planners are concerned that such a trend will put so much pressure on the carrying capacity of the planet as well as bring hunger and continued poverty for much of the world (Skinner, 1994; Norse, 1994; Soriano,Claudio & Fansler, 1995; Dahlberg, 1996; Goodland, 1996).

The Philippines is one of the developing countries with the highest population growth, its population having reached 60.7 million in 1990. Likewise, the National Economic Development Authority, the economic planning and policy making body in the country has estimated that 55 percent fall below poverty level. Poverty has been identified as a cause and effect of overpopulation and consequently, of environmental problems although as earlier discussed, the deeper root causes of disparities and structural violence need to be addressed simultaneously.

The deteriorating peace and order situation is another reflection of the "cause and effect" cycle of many social issues. The Muslim-Christian conflict dates back to the history of colonization and embedded in it are the relationships, attitudes and values that have been perpetuated through the years. The clamor for autonomous governance on the part of the Moslems could be traced to their marginalization by the powerful, Christian-dominated Manila-based national government. The Peace Accord forged by the government of the Republic of the Philippines and the Moro National Liberation Front is a big leap towards the attainment of peace in Mindanao (Arguillas, Aug. 31, 1996; Sept.1, 1996). The SPCPD, the institutional mechanism for the implementation of peace and development in the region is one step towards the restoration and maintenance of peace in the area.

The role of NGOs in empowering communities in their struggle for the protection and preservation of the environment has been recognized by the teacher participants. More community-based or collaborative initiatives were underscored such as the Health Resources Development Program mentioned by Fatima, or the Social Forestry orientation stressed by Ali.

In the same light, the social issues transcends other issues and the boundary lines are not marked. This indicates the need to view SD through a holistic framework.

The political dimension. Leadership and a strong political will were considered very essential to the attainment of sustainability. Many of the participants have underscored the fact that many of the ecological problems the country is facing is due to the absence of a strong political will. To them, the tendency for powerful ruling elites to bend legislation in favor of TNCs and other vested interest groups has caused the deterioration of the environment and the moral fabric of society.

It could be noted that the participants highlighted the importance of leadership. Yet, they also expressed a kind of distrust or lack of confidence in their leaders. Fatima and Ali have expressed their views on the current breed of politicians who no longer enjoy the respect and honor afforded to the *datus* or the *bais,* titles ascribed to Muslim leaders. Ali underscored the role of leaders as responsible for the maintenance of peace and the attainment of development in the region.

Breaking through the teachers' narratives of their observations and experiences with regard to pollution coming from the exhaust of vehicles and industrial wastes brought various issues into the surface. For instance, the participants voiced their concerns about the increasing number of vehicles which was regarded as a natural consequence of economic "growth." Joyce and Jenny expressed alarm over tricycles on the road that violate city limits of exhaust and noise. Ali brought forth the issue of business firms that do not comply with CEC (Certificate of Environmental Compliance) requirements while Alex pointed out that there is ethics in business which demands accountability and responsibility for their operations. What was interrogated was the claim that in spite of the legal structures that have been created to protect citizens from the hazards and consequences of pollution, there are still vehicle operators and TNCs who ignore these requirements. Likewise, the detrimental effects of pollutants like the death of rivers and lakes and correspondingly, of marine life all pointed to the need to bring into questioning why big businesses that ignore environmental standards persist in their operations since the repercussions could be irreversible later on. In the process of untangling the interconnections, the corrupt practices of officers tasked to enforce regulations surfaced as another layer of obscurity that needed to be brought into light.

Corruption was a recurrent theme in the conversations. The participants agree that there are many good laws but these always fall short in the process of implementation.

This is because corruption often discloses itself in even well-intentioned endeavors. When explored more deeply, corruption is revealed as one that gives birth to a host of other problems but is bred by other issues as well notably, the issue of structural violence. As in the issue of poverty and the environment, the problems confronting Philippine society are trapped in as Kris, one of the participants put it, "the cycle of the chicken and the egg."

Interestingly, the participants looked at the leaders or government officials as responsible for the direction of the development process. A reading of their stories reflects a notion of separation of the leaders and the governed. In many instances, the cause of environmental problems are pointed at the leaders or officials. There is a subtle implication of the decision-making process as being in the hands of the leaders which bears a kind of contradiction of the democratic process that is built into the Philippine political structure. The contradictions in practice is revealed in this aspect. This is demonstrated in the clamor for the other sectors, the farmers, the Lumads, women, among others to participate and get involved in issues that concern them. Thus, the proponents of the SPCPD claimed that it was the result of a series of consultations with the people. Significantly, other development programs or documents like the Social Reform Agenda and Philippine Agenda 21 (1996), bear the imprint of the people. But as to what extent the participation of each of the various sectors has been could be gauged from the other voices that come out as openly as the dominant voice in the process of implementation.

The representation and participation of NGOs and POs in environmental legislation as well as in the planning and implementation of development projects was hailed as a way of safeguarding the rights of the people. There was a concern about the human rights abuses perpetrated by powerful ruling groups especially against the indigenous peoples and the environment. The role of media in exposing human rights violations was also underscored by the participants.

A dedication to the democratic tradition in the decision-making process is advocated by the research participants to check abuses and prevent the violation of human rights. A strong leadership and political will is necessary in the meaningful exercise of the democratic process.

The cultural dimension. The participants underscored the role of Filipino values in achieving sustainability. They advocated simplicity in lifestyles as a way of counteracting the surge of materialism brought about by the powerful forces of globalization. Fatima, Teresa, Jenny and Estela stressed the importance of simple lifestyles and of little things in the pursuit of sustainable development. They considered the penchant for western goods and ostentatious display of wealth as hampering authentic development. Concerned with the impact of modernization strategies like the Green Revolution and export-oriented industrialization, most of the teachers have come to recognize the importance of indigenous wisdom, practices and culture especially in relation to the protection of the environment. Jerry, Alex, Teresa and Fatima brought out the positive effects of indigenous practices such as the adoption of an organic system of farming and alternative medicine. Although they think technology could provide answers to some problems they believe that technology should be appropriate to the particular context in which it is applied.

The problems that confront indigenous people especially in cases where their ancestral domains have been assaulted through the incursion of development projects were focused in the conversations. Not only are they rendered homeless in the process but their cultural traditions are also undermined. Their marginalization is further aggravated by the way basic services are delivered to their particular areas which tend to ignore their cultural traditions and practices (Soriano, Claudio & Fansler, 1995). In the case of the Mt. Apo Geothermal Plant Project, the preservation of their culture and respect for their sacred grounds are of utmost importance to the indigenous people living in the area (Arquiza, 1990; Magpantay, 1990). Cultural loss is another consequence of deforestation (Prance, 1990).

That the poverty of the Muslims is due to their indolence and their fondness for the easy-going life was brought out by Jenny. While this could be a form of stereotyping, it still reflects the prevailing attitudes of a great number of the Christian population towards Muslims. In our conversation on education for sustainable development, Alex made reference to an article which presented an analysis of the reasons why the Christians have progressed whereas the Muslims have stagnated. One needs only to see the cultivated lands of the Christian communities and the barren fields of the Muslim communities to understand what the issue is all about. These observations have been pointed out to me by other people as well. Some people's negative views of Muslims reflect a kind of bias which is very common to some Christians who may have encountered unpleasant experiences in relating with them. It connotes a kind of stereotyping which could further widen the gap between Muslims and Christians, two of the main groups of people in the Mindanao area. Significantly, a reported interview with a *Sangguniang Kabataang* leader (youth representative of the municipality or city legislative assembly) yielded striking similar negative views related to Muslim ways (Cristobal, 1996). Such projected images of Christians and Muslims are often planted in young minds and nurtured through the years by structures like the media and even the schools. Jenny's observations regarding the reasons for infrastructure projects to take so long to build on the part of the Muslims were also shared by Bernie, who like Jenny, is also a Christian engineer. Opportunities for collaboration among Christians and Muslims may help dispel unfounded fears and develop a genuine understanding of one another. The presence of negative biases is a deterrent to the achievement of peace and unity which was regarded as a vital ingredient of sustainability.

Related to the issue of attitudes and biases is the issue of colonial mentality, which refers to a preference for things western and at its worst, a disdain for one's very own. Tina's assertion of her preference in the use of English over the national language, apart from her native tongue, could be examined from different viewpoints. As presented in the conversation with Tina, language being the vehicle of thought and being culture-bound carries what Gadamer (1988) had referred to as prejudices. Although English is acknowledged as the language of the world and one of the official languages in the Philippines, its being also the language of globalization brings issues like its role in the homogenization of culture, that needs to be further explored.

The moral/spiritual dimension. There are three groups of people in the Mindanao area: the Lumads, Christians and Muslims. Each group tends to a spiritual faith which advocates for the valuing and protection of nature or the environment as the things that meet their needs emanate from the Earth. Most of the participants in the study profess to a belief in a higher power which directs their lives and provides the foundation for their actions and behavior.

Joyce regarded nature as God's gift and as a special gift, should be valued and taken care of for to do otherwise is to offend the giver of the gift. This view reflects Joyce's way of viewing her relationship with her environment. It connotes a kind of respect for the environment not in the manner of exercising dominion and control as how other Christians interpret the Biblical passages on the environment (Kinsley, 1996).

Joyce's view of her relationship with nature reflects a theological perspective which offers a new interpretation of humanity's relationship with nature. It differs significantly from the anthropocentric model perpetuated by western Christianity which regards modern man as having dominion over all creation. Theologians seeking a new ecological understanding have found the Bible contains themes that put an interdependent relationship between humankind and the rest of creation. The responsibility of caring for nature rests on humanity who should love and care for nature as God does for all of His creation (Kalaw, 1993). Caring for the environment is a Christian responsibility. In his message, Pope John Paul II (1996) declared, "The ecological crisis is a common responsibility" (p.230).

The Christian church has been very actively involved in the ecological movements in the Mindanao area. Many of the leaders of the church have come out openly against activities that threaten the environment or trample upon the rights of the Lumad who have long held this strong affinity with nature. This new green theological position reflects a new spirituality, a new way of understanding people's relationship with their environment and with God. In the tradition of the Catholic Bishops Conference of the Philippines (CBCP) pastoral letter, this new Christian spirituality calls for humanity's renewed vigor in caring for all creation.

It could be noted that other religious or spiritual groups manifest an ecological orientation. Indigenous people demonstrate this kind of affinity to the land or the environment as in the case of the native Hawaiian (Dudley 1996) or the American Indian (Hughs, 1996). Other religions profess respect and care for nature as in Buddhism (Timberlake, 1987; Kabilsingh, 1996) and Hinduism (Dwivedi, 1996). Islamic environmental ethics is embedded in the Shariah (Izzi Deen, 1996)

Issues related to moral values and how they affect people's behavior in the exercise of their duties and responsibilities were brought out by Alex, Fatima, Estela and Bernie. Sarah also claimed that their forests have been preserved because of their adherence to a respect for one another's area.

The issue of corruption was related to moral and spiritual values. It has been claimed that a good dose of values are instilled in students through education but it is ironic that when they are already in their jobs or positions in government, the values seem to be forgotten. To grasp an understanding of why there seems to be a perceived failure in the teaching of values is to delve deeper into the malaise that grips Philippine education. Likewise, the interplay of values and the forces that lead to corruption has been explored in the course of our conversations. A solid moral and spiritual grounding is necessary to be able to resist the lure of corruption.

Sustainable development as an oxymoron

Only Jerry brought into questioning the contradictions in the two words, "sustainable" and "development." This could be attributed to the fact that the term, having been adopted in official development discourse, carries a kind of legitimacy which insures its general acceptance by many people and is no longer subject to linguistic perusal and examination. Jerry, however, was aware of the contradiction, understandably with his experience as an English teacher and his exposure to sustainable development issues with the workshops he conducted for teachers in the region.

Jerry's problem with the term is reflected in the literature on sustainable development which points to the contradictions embedded in the two words. Redclift (1993) offers an explanation with the etymology of the word sustainable as having both positive and negative connotations. Derived from the Latin *sus tenere*, it connotes withstanding an undesired state and continuing a very pleasant condition. Although the relationship has been branded as an oxymoronic union between "sustainable" and "development" (Mele, 1996; Ophuls, 1996) on the basis that development is inherently unsustainable, it has been also viewed as "resulting in a third which is greater than the sum of its parts" (Samson, 1995, p.3). The ambiguity of the term however is viewed by others as offering possibilities to broaden its range and to fit it into specific contexts.

Sustainable development and its multidimensional complexity

An exploration of the concept of sustainable development based on my conversations with the participants in the study revealed its multidimensional complexity. The many issues that were brought into the conversations led to an uncovering of the many aspects of sustainable development. However, understandably, the teacher participants viewed sustainable development from their experiences, knowledge, observations and realities. Hence, the conversations did not reveal the "one" meaning. Rather, individuals expressed multiple emphases which on occasion, overlapped and sometimes diverged. Encased in a holistic framework, the dimensions of sustainable development are integrally linked and transcend one another.

CHAPTER FIVE

THE CONCEPT OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

Introduction

The flow of my conversation with the research participants demonstrated a pattern which showed that in our attempt to explore solutions to environmental problems, we always highlighted the role of education. I took this to be a natural consequence because as teachers, we harbor the notion that education is the solution to the ecological crisis. The transition to a sustainable world which calls for a transformation in our values and lifestyles, is primarily an educational concern (Fien & Trainer, 1993).

Education for sustainable development (ESD) became a most interesting subject of conversation especially because the participants have such diverse backgrounds and experiences. Reference to topics previously discussed was a common element in the conversation. There was always this forward-backward stream of ideas subsequently merging but always searching for possibilities. The end of our conversation sessions had always assumed the silence of an unfinished quest.

I have identified various themes on the concept of ESD mainly from my second and third conversation sessions with the research participants although our reflections were always interwoven with themes from our first conversation. As in the previous chapter, the presentation is thematic and individually-based. Table 2 shows a summary of the themes that emerged from the conversations with each participant in the study.

Table 2. The Participants and the Different ESD Themes

PARTICIPANT	THEMES
JERRY	1. ESD starts with the cry to transform education 2. "Sharing" as a teaching strategy in ESD 3. The search for meaning: Bridging theory and praxis in ESD

PARTICIPANT	THEMES
ALEX	1. The Vision-Mission of the university: Reflective of ESD goals 2. Integrating values related to ESD in the different subject areas 3. Problems of integrating ESD and addressing them 4. ESD as raising people's level of consciousness on environment and development issues 5. The successful promotion and implementation of an ESD program
FATIMA	1. ESD as developing appreciation for humanity and the indigenous resources in the community 2. Integrating ESD within a community-based curricular program 3. The need for an adequate background knowledge, more resource materials and support to successfully integrate ESD
ESTELA	1. The content of ESD 2. Integrating ESD in Language and Literature 3. "Success" and the "good life" in the development of ESD values 4. Hope and spirituality in ESD
KRIS	1. Refocusing educational goals towards ESD 2. Problems in the use of participatory strategies in teaching ESD 3. Searching for the "Filipino" in ESD instructional materials 4. Alternative ways to promote ESD
JENNY	1. ESD as the development of awareness of environmental care 2. ESD in the context of engineering 3. Integrating ESD through a group sharing strategy 4. ESD outside the classroom setting
TERESA	1. ESD as the development of knowledge, skills, attitudes and values pertaining to the wise use of resources 2. The development of awareness of environmental issues 3. Developing self-reliance through livelihood skills 4. Promoting ESD as a collaborative and team effort
ARLENE	1. Forming the right attitudes and proper values in ESD 2. The incidental teaching of ESD in Filipino and Guidance 3. Bringing ESD into the classroom

PARTICIPANT	THEMES
TINA	1. The educational system and ESD 2. Participatory: A Pedagogical Approach to ESD 3. Research and evaluation in ESD 4. Potential problems in integrating ESD
BERNIE	1. Exploring possibilities of integrating ESD in Engineering and Technology 2. Making ESD more enjoyable and meaningful 3. Empowerment through training
SARAH	1. Exposure and the development of values and appreciation for our natural resources 2. Some practical ESD activities 3. ESD training for students and faculty
JOYCE	1. The need to teach ESD in schools 2. ESD activities in the school and in the community 3. Integrating and promoting ESD
ALI	1. "Being educated' and "having learned" 2. ESD themes as subject matter in Forestry and Fisheries 3. Tapping human resources for SD 4. Resource materials in ESD 5. Research and empowerment in the promotion of ESD

JERRY

My conversation sessions with Jerry revealed his passionate search for unique ways of making students learn and relieving teachers of the stresses resulting from the difficulty of coping with the demands of teaching. This is indicative of his positive outlook concerning education in general, that is, that one can always come up with a way to deal with problems given the skills and the determination to solve them. His optimism nonetheless, does not cloud his realistic and pragmatic assessment of educational situations.

From the various topics that emerged during our conversations, I have identified the following themes:

1. ESD starts with the cry to transform education
2. "Sharing" as a teaching strategy in ESD
3. The search for meaning: Bridging theory and praxis in ESD

Theme 1: *ESD starts with the cry to transform education*

In the course of our previous conversation about foreign investments and development, Jerry and I were both inclined to believe that such a development strategy that depends so much on foreign capital serves only the interests of the few - those who own capital. As the benefits of development do not usually trickle down to the poor majority as its advocates would like to believe, the problems arising from a situation where wealth is concentrated in the hands of a limited few, served as the key that opened more topics linking education and schooling to development in our conversation.

Mindful that the goals of an educational institution can influence the work of teachers, I called Jerry's attention to the Vision-Mission of the university. Although the Vision-Mission does not explicitly and specifically express goals of environmental care and protection of resources, ESD goals are built into the whole framework. This is particularly reflected in the part which states: "To give special attention to the poor, depressed, oppressed, marginalized and exploited, particularly in the active participation of the ministries and apostolate of the Oblates in the mission of the local church to live a lifestyle of Christian values, respecting and promoting life and human rights, working for truth, justice, love and peace" (SMU Information Bulletin, 1995).

Jerry's response to my question on how the goals of the university as embodied in its Vision Mission have influenced his views and way of teaching ESD in the different subject areas reflects a kind of radical questioning which seems to challenge the overwhelming power of the system. He acknowledges however, that the chances of being able to penetrate through its intricate and complex structure with the objective of instituting reforms or transformation are too slim.

> *The answer to that question has to take into consideration the structural violence we are in and which all the schools are in a way, perpetuating. SMU is no exception, unfortunately. Although the administration, faculty and students would like very much to change this image of SMU. But since we seem to be so enmeshed in the system, there seems to be little that they can do about it.*

While there was a tinge of resignation in his voice as he expressed his views about the system, Jerry hinted that teachers themselves can bring about changes in their own little ways. Highly appreciative of the freedom and support administration has afforded him to experiment with new methods of teaching, he deplored that the schools have become mere reproductive sites because teachers have allowed their teaching methods to remain stagnant and unable to cope with change.

> *One of the reasons why schools continue to replicate the situation... passing on the culture without transformation, is because* ***our*** *methodologies are not also changing. The teachers do not think of ways to change* ***their*** *methodologies.[Underscoring supplied]. They blame this on the system itself. They don't have the time for themselves, for the family and school and activities like those of the Knights of Columbus and the Lions Club.*

The shift from **our** to **their** could be noted in his explanation. This exclusion of himself was due to the fact that he did not subscribe to the belief that this failure to be transformative lies solely on the system. He recognized time as a factor but felt that by budgeting one's time properly and through foresight, teachers could alter their teaching methodologies such that students become not only "reproducers" but "thinkers." He believed that in this way, teachers are able to change the situation.

Time as a constraint is perceived by Jerry as rooted in the economic situation of teachers. In our third conversation, Jerry described how time limitations could affect the process of teaching and learning. According to him, the regular teacher's load in the university where he teaches is 21 units or 21 hours a week of instructional time.

However, a teacher may carry as many as 30 units which is equivalent to 30 hours per week of instructional time or nine hours on top of the regular load. In matters of course preparation, a teacher may have as many as six different courses to teach. To Jerry, this could present a big dilemma. How can a teacher teach effectively with so many classes and courses to teach?

> *To do this effectively, a teacher has to be prepared not only in terms of content but in terms of methodology. So this would take quite some time. Add to these the fact that the teacher has to correct papers, check attendance, has to do the chores at home. So it seems that the teacher has really not much time to... teach effectively. You see why many just repeat what the books are saying.*

Yet he also viewed this situation in a realistic and practical sort of way.

> *...But the teachers also like that because that is an increase in their income. So the reality is that the teachers also like these overloads otherwise they cannot be here. They say that we live by overloads. With just the regular load, we will not be able to survive. Many of us survive because of the overload. And the university saves a little by giving overloads to teachers instead of hiring new teachers and apportioning to them their overloads because the university does not have to pay extra SSS (social security system) benefits. So under the conditions, it's a good arrangement for both sides. But I think the ones who suffer are the students.*

Jerry however, asserted with a certain degree of optimism that the problem could be remedied by being resourceful and creative.

While Jerry did not directly hold teachers accountable for the shortcomings of the system, it was obvious that he does not exclude them from the responsibility either. I did not interpret this as a superficial attempt to stand on neutral ground. Rather, Jerry realized that the system has built-in structures with sets of practices, beliefs and values that have deep-seated influences on how teachers carry out their day-to day lives and this contextual reality is a strong force to reckon with. He described the situation thus:

> *Even in high-standard schools, they are still using the banking method of education. The professors also like to be considered as 'terror' professors. The more terrorized the students are, they think the better they are as teachers. I think this should be taken out of the system of education.*

Recalling our experiences as students, we brought forth common practices by some of our professors which have persisted through time. The subject of "terrors" who took pride in making things difficult for their students became an interesting piece in our third conversation. To Jerry, teaching should be a way of facilitating students' learning.

Because education is an effective instrument for transformation which is necessary in the promotion of SD, Jerry felt that there is a need to interrogate certain educational structures and practices still gripping the system that could serve as barriers to the attainment of SD goals. For Jerry, certain educational practices should be examined critically to raise an awareness of the need for change. ESD starts with the cry to transform education.

Theme 2: *"Sharing" as a teaching strategy in ESD*

How to make students learn became the focus of our conversation since learning is basic to instituting change or transformation in society. Jerry claimed that he makes it a point to search for strategies which he hopes could get students to learn. In doing so, he strongly advocated the need to involve the students. Indeed, education becomes more meaningful when students are actively engaged in their own learning. At the end of the term, he asks for students' feedback. This way, he gets to know the strengths and weaknesses of his method from the students' perspectives.

In his classes, Jerry tries as much as possible to get away from the lecture method by trying "new and refreshing approaches." He described his "sharing" strategy as a departure from the usual reportorial method wherein students are made to prepare a report which they usually take out from a book and then read in class. To Jerry, this does not really help students how to learn nor stimulate them to think critically. Furthermore, it has often been the case that students get bored in the process. On the other hand, his "sharing" strategy not only motivates the students to think but also to participate and get involved in the discussion. Student interaction is enhanced and this helps them to recognize that in an environment such as the classroom, they are linked together in a relationship of mutual sharing and interdependence as is the case in any ecosystem.

Jerry explained that in this approach, the students develop the ability to think critically, weigh the pros and cons, challenge others' ideas and form decisions. Showing a sample of his students' compiled work, Jerry explained how he conducts his strategy.

> *On the the first day of class, I present the schedule. This is the schedule, so the student writes here (points to the portion of the page). The student writes on this page. They make use of the module. They form questions and answers on the topic. But I caution them not to make artificial questions. What I require them to do is to ask themselves questions that concern or interest them. But some are not able to do that because they are pressed for time.. In class, they share. It's voluntary sharing. Then I give my comments.*

Jerry had informed me earlier that their module which is a compilation of readings in *Ethics* actually includes articles on SD. It is the inclusion of these articles which makes ESD an integral part of their course.

Basing on their feedback, Jerry finds that the students are very receptive to new ways of learning. He observed that most of them like "to do something and to be active in a certain task which they see is helping them to really learn. They do not like to sit and just listen to the teacher." Yet, in Jerry's view, teachers are sometimes guilty of dampening students' curiosity or enthusiasm to learn because of practices that have been carried over from tradition. When teachers overemphasize the need for students to do things exactly the way the task has been demonstrated to them, students tend to become very dependent on the teacher and the motivation to think critically and creatively is lost in the process.

Jerry agreed that there are strategies preferred by students but while it is a sound principle to accommodate their learning styles, the reality of so much diversity makes it extremely difficult for an overburdened teacher to identify students' aptitude for certain learning styles and to plan and provide learning experiences to meet this need. However, this refers to the need to introduce different teaching strategies not as a way to cater to each individual student's preferences but to allow students to learn in ways which they are most comfortable with. Exposure to various approaches familiarizes them to the various ways of learning which is a significant step towards becoming a critical learner and thinker.

Developing in students the ability to think critically is very essential if schools are to become transformative sites rather than reproductive mills. The interactive process employed in Jerry's "sharing" strategy offers opportunities for critical analysis of many issues presented in the articles included in the course readings. Jerry also believes that a 'sharing" atmosphere could develop unity and solidarity among students and the ability to challenge existing development policies and practices based on a system of values consistent with SD. Through classroom activities that encourage formulating questions and searching for answers, Jerry feels that his "sharing" strategy could weave its way towards the kind of education that promotes the critical questioning of structures that hinder the attainment of sustainable development.

Empowerment for Jerry, comes through communicating with the students. By leaving the lines of communication open, he feels that he can effectively and creatively teach ESD "by sharing ideas, discussing issues and in this way, build human bridges." He considers the establishment of human links as the foundation stressing that "if we do not destroy one another, there is also the corresponding effect that we do not destroy our environment. At the same time human development is always addressed."

In order that ESD would have a better place in their institution, Jerry proposes that teachers and students should work together in search for better ways of learning. As students learn how to learn, they begin to grow and become more sensitive to issues affecting their environment and their struggles towards genuine development. With renewed vigor and optimism, he left this footnote to a lively conversation:

> *Teachers and students should come together and really think of better ways to learn. As they learn better, their minds are open and they are able to see the glaring defects in the structures of society and they will be able to address these structural defects and at the same time as the benefits of development are equitably distributed, they will be able to make sense of themselves in such a way that the resources will not be depleted but in the process of using these, they are enhanced.*

Theme 3: *The search for meaning: bridging theory and praxis*

While we focused our discussion on ways to make students learn, Jerry concurred with my view that learning takes place when students find meaning in what they are talking about. When students can relate to a certain concept, the interest to know more about it grows and is sustained. Once the interest is established, the teacher's task becomes lighter because the students would be generating questions and searching for answers in a chain-like fashion. They become responsible and critical learners.

Jerry added that an area which teachers should look into is in making the course significant to the lives of the students. Jerry noted that there are topics or themes that when taught, appear to be abstract and detached from the students' practical lives. He cited as an example, in a subject like the Constitution, when a teacher would just ask the student to memorize the Preamble and the number of commissions, the subject matter becomes meaningless and irrelevant to their lives.

In his classes, Jerry identifies themes that usually emerge from the students' sharing of ideas and insights. After the activity, he processes them and writes them down. Establishing linkages or relationships among themes or concepts is one skill that students need to develop to be able to examine issues critically from different perspectives. As sustainable development covers a very broad spectrum, dealing with problems or issues demands the students' ability to draw relationships and to critically examine them from a holistic view.

Making the course meaningful also implies that the choice of subject matter be geared to the students' area of specialization. Thus, in his class of seminarians, Jerry introduces classics on spirituality and he is convinced that in this way, they are motivated to learn and to read more. By integrating sustainable development issues in the courses he teaches, Jerry firmly believes that the subject matter in these courses is greatly enriched and becomes more relevant to the students' lives. Drawing from their own life experiences, students learn to deal with ecological problems that affect them and their community.

However, Jerry who adhered to the notion of practice as the application of theory, observed that this link is one aspect where the classes are very weak.

> *There should be a support mechanism somewhere so they can apply the ideas. For example, one time they went to clean the city. Of course, those who have taken the subject in which education for sustainable development is integrated would be convinced that the activity is integral to the subject matter. Like last time, I brought a seed. I ask them what kind of seed it was. Some could identify it as a 'malunggay' seed. And we discussed about it, its medicinal effects, etc. But to see them plant a malunggay seed or stalk... it has not dawned on them that it has anything to do with sustainable development.*

Why practice or action is not often forthcoming as a result of learning has always been a big challenge for some teachers. Jerry's observations and experiences illustrate that there is still much to be done in order to ascertain whether the ideas have really filtered down or been absorbed. In his particular class, he teaches the students how to meditate and to think about a certain subject until it affects them. The process of reflection enables them to draw insights from their own learning.

Jerry was convinced that the opportunity to meditate is what is missing in many students' lives. He believed that transcending the wall between theory and practice requires a great deal of effort because the ideas or concepts have not really filtered down to the people's subconscious. Jerry firmly asserted that the aspect of meditation should be given more thought in education.

ALEX

My second conversation with Alex initially focused on the relationship between ecology and business. His assertions that they could be mutually reinforcing and could spur the development process if business would comply with environmental protection requirements and labor standards served as the transition towards our discussion of ESD. From the numerous topics that we touched on, the following themes were identified:

1. The Vision-Mission of the university: Reflective of ESD goals
2. Integrating values related to ESD in the different subject areas
3. Problems of integrating ESD and addressing them
4. ESD as raising people's level of consciousness on environmental and development issues
5. The successful promotion and implementation of an ESD program

Theme 1: *The Vision-Mission of the university: Reflective of ESD goals*

After outlining some of the points we discussed during our first conversation, I started with the premise that education plays a major role towards the attainment of a country's development. I recalled what Alex mentioned as the role of the academe in the promotion of sustainable development: students and faculty could conduct seminars and trainings in various schools while student organizations could join hands with NGOs to exert pressure on government development planners on decisions that may affect the environment and people's living conditions. His perception of the role of academe served as the focal point in our discussion about ESD in the university. We started with an examination of the Vision-Mission of the university and its commitment to sustainable development.

Alex saw the Vision-Mission as giving direction to the university in terms of the kinds of graduates it hopes to produce for the next five years. As such, it provides the framework for determining "the kind of curriculum that needs to be adopted, the kind of teachers it would like to hire and the manner of delivering educational services."

Concerns for the state of the environment is not explicitly expressed in the Vision-Mission of the university but Alex expressed the view that it is embedded in one of the sections that deals with its concern for the poor. Poverty is closely intertwined with environmental degradation as is with other socio-economic problems. Alex assumed that those who framed the Vision-Mission may have also thought of the environmental situation but the issue of poverty was more glaring and demanded greater urgency and priority.

ESD goals are reflected in the Vision-Mission of the university. Providing a historical backdrop to its formulation, Alex explained that the Vision-Mission "speaks of the values of the founders as part of their evangelization." It is basically committed to the building of Christian communities and gives "special attention to the poor, deprived, oppressed, marginalized and exploited" (SMU General Information Bulletin, 1995).

On the issue of poverty, Alex believed that it is not due to people's indolence, rather, it is rooted in the structures that tend to reproduce the system. The realization of the goals of the university concerning the alleviation of the plight of the poor demands that administration and faculty reach out to the wider community of Central Mindanao. Alex believed that through conscientization, the people would be able to develop an awareness and understanding of their situation and the deeper cause of their poverty. The university also seeks to produce graduates who can think critically and "are well-conscientized on the issues of corruption, ecological problems and poverty." These graduates who will soon be occupying important positions in the public and private sectors were expected to institute the needed reforms or changes for the betterment of society. In spite of this hopeful outlook on the kind of graduates the university is seeking to turn out, Alex did not ignore the dilemma of realizing this goal.

> *Attaining the vision-mission is very difficult. Even some of the faculty find it very difficult or they have some reservations because even within the university itself, there are problems. There's this problem of structural violence in the city. We see the university as a microcosm of the whole Philippine society. It's a paradox as I see it. It's ironic in the sense that the school has this very ideal vision and yet, in this system, we also find poverty and structural violence.*

Theme 2: *Integrating values related to ESD in the different subject areas*

Alex had mentioned in our first conversation that education for sustainable development is integrated in the subjects he teaches. The department had recently revised their syllabi on their core curriculum subjects like Political Science, History and Economics and in their revision, they have integrated values related to Ecology. He described the process thus:

> *For example, in Economics, we identify the concepts that we want to teach. With these concepts, what are the values that we want to integrate? In Economics, we talk about land and we can integrate a sustainable development issue like the utilization of land. So, in presenting this concept, we try to emphasize that in the utilization of land for production, farmers or even citizens or even the students themselves should take into consideration the conservation of the land's fertility which could be through the use of indigenous methods of farming. By conserving the fertility of the soil, the concept of taking care of the land is integrated with the concept on the factors of production. This is very important because we integrate the values in relation to the use of the land as an aspect of ESD.*

The use of appropriate technology and compliance with environmental requirements as well as labor standards in business are sustainable development themes that could be integrated with Economics. The proper utilization of resources is an environmental theme which Alex integrates in his Political Science subject.

From Alex' description, I recognized that in addition to values, knowledge and skills are also basic to the whole integration process. The subject matter in the Core Curriculum subjects are in harmony with many sustainable development themes so that to successfully integrate ecological values, an adequate background knowledge is necessary to fully understand the issues. This is important because the lack of understanding makes the adoption of values or the commitment empty or devoid of any meaning hence, it does not move people towards action. However, some of the participants have expressed the view that the integration of ESD in a certain subject area greatly enriches that subject.

Alex agreed with the view that ESD enhances the subject in which it is integrated based on his experience in his teaching of Economics. Most of the themes in Economics such as capital, market price theory, supply and demand are potential entry points for education for ESD. While he encountered some difficulty in Political Science, he was able to pick some areas as entry points. However, he confessed that he found it very difficult integrating it in History, in spite of the fact that he tried to go into deeper analysis of historical events or significant issues instead of the conventional practice of just enumerating historical facts and dates.

I informed Alex that the difficulty of integrating ESD in the different subject areas has been expressed not by a few teachers. However, since sustainable development encompasses such a broad scope in relation to the varied aspects of human life, I always held the view that there are possible avenues within any subject area in which it could be an integral part. I related to him that one teacher had told me he could not integrate it in his course which deals with hydraulics. This teacher gave the construction of dams as an example of the topics in his course outline. Alex was quick to point out that a possible entry point could be framed within the aspect that deals with the selection of materials for construction. Likewise, I identified environmental issues like the case of flooding brought by construction flaws as possible themes. Human rights issues concerning people displaced from their lands as a result of the construction could also deepen students' insights into the humanistic side of the study of hydraulics.

I assured Alex that with the broad scope of SD and similarly, of history, there are possible areas where these two disciplines can delightfully blend. I identified a particular event in Philippine history, the booming era of the Spanish galleons. From an analysis written by Rodriguez (1993), in this particular period, there was a great demand for timber. The author argues that the environment was severely affected by the shipbuilding activity as trees had been indiscriminately cut and the forests deteriorated. As well, the exploitation of labor that had always been associated with colonization could stimulate students to look into the historical roots of poverty. History is a very fertile ground for the integration of ESD since many significant historical events such as tribal conflicts are deeply rooted in struggles over resources and in the social injustices that have been perpetuated throughout the years of colonization. I cited the Muslim-Christian conflict as a possible example. Alex did not quite agree with my view that the conflict is rooted in the struggle over land and expressed doubt whether an ecological cause could be attributed to it. While he informed me that this particular topic belongs to the area of Mindanao Education which he does not teach, he also made reference to an article published in the "Mindanao Kris," a local newspaper, which presents the thesis that the poverty of the Muslims was not simply brought about by the Christian invasion of their land but is the result of the Muslim's inability to work hard. According to Alex, the writer justified his claims by comparing Muslim and Christian communities. The Christians are very progressive because nothing is left idle. Their farms are planted to rice and corn while in the Muslim communities, many areas are left uncultivated. I have heard this argument from a few people and while Alex and I could not resolve the issue, we left the topic for further reflection.

Theme 3: *Problems in integrating ESD and ways of addressing them*

As our conversation progressed from the integration of ESD to the difficulties encountered in the process, Alex related his own experiences as a teacher and as an administrator. One interesting problem which he mentioned was that the students often thought that they have deviated from their subject matter and that they were no longer within the realm of their subject area. In this situation, he would always tell the students that he has to approach the subject by integrating concepts from other disciplines as there was a need to look at issues from different perspectives.

> *I tell them that in order to understand the subject we have to tackle the economic dimension. By tackling the economic dimension, I have to discuss the issue of sustainable development. Some are convinced. I told them that it is very important.*

In teaching, Alex employs a variety of strategies such as web charting and panel discussions. He also gives lectures. I commented that while the lecture is often considered boring, if it is a creative lecture, students could still be participating actively by listening. The creative lecturer could make it interesting and less boring through the use of props and other techniques. Interestingly, Alex related how his pedagogical strategy evolved from the lecture to one which calls for greater student participation.

> *The first time I teach a subject, I employ the lecture more frequently to familiarize me with the content of the course although there are also instances when I use the participatory approach. Once I am familiar with the subject matter, I gradually shift to the participatory approach. It's very difficult to use this approach when you yourself is not familiar with the topic. Once you gain familiarity, you can become more creative. Like you would ask, "Can I use web charting as a strategy here? Or is a simulated television program better?"*

From the trend in our conversation, I sensed that Alex was very much concerned about the "kind of students" and how they constrain the use of participatory strategies. Alex traced the difficulty to the below-average or slow learners. As he put it, "Even if you provide the guide questions, they would just look at each other."

Why the students react this way, according to Alex, stems from the problem of communication. Inadequacy in the language of instruction could prove to be a constraint in the process of interaction. Before, he had required them to use English since it is the medium of instruction in the tertiary level but he finally, allowed them to choose the language to use as long as they understood each other and as long as they could express their ideas.

He also talked about the inadequacy of students' stock knowledge which he explained thus:

> *If they do not read newspapers, books, magazines or periodicals especially if they come from the barrios or if they do not watch television or listen to the radio - it's very difficult for them. So when you talk about SD, unless you define the term, it will be foreign to their hearing because it will be the first time they've heard of it. So this is another problem - the lack of stock knowledge of the issues.*

To address this problem, Alex claimed he requires his students to read a lot. He assigns them to read an article in the local papers like the "Mindanao Cross" and to make a critique of what they have read which he felt was one way of forcing them to read. They spend half an hour every Monday to report on the article in the class. Alex sadly noted that in spite of his constant advice and encouragement for them to read, some were plain lazy to read the articles assigned to them. Yet, he observed that they love to read the tabloids and the comics. Commenting on students' reading preferences, I pointed out that they have been exposed to these materials which is entertainment fare, hence there was that element of familiarity which would make it very appealing to them. In contrast, the articles on sustainable development issues may require serious reading and may not correspond to their reading level. Alex concurred with my view that indeed they enjoyed the comics and the tabloids because they are easy to understand and they did not have to think very deeply. The problem therefore, addressed itself to raising the reading levels of students and choosing materials that could capture their attention and interest.

Concerning materials, Alex felt that this was not much of a problem. For his own needs, he has read many books and articles brought by Dr. Toh Swee-Hin and Dr. Virginia Floresca-Cawagas, visiting professors from the University of Alberta for their workshops in Peace Education. He has read quite a number of materials on SD and found the university library's collection adequate. He noted however, that these were being used only by teachers who have attended the seminar on ecology or on human rights. Due to his responsibilities as the department chair, he has less time to read than he used to,

As chairperson, Alex saw the difficulty of some of his teachers who have not attended any seminars or in-service training on ESD. Although some of his teachers may be able to integrate values education, the lack of knowledge or skills in ESD poses difficulty for these teachers to integrate it in their classes.

In relation to the lack or inadequacy of background knowledge in ESD, Alex also foresaw the difficulty of his teachers in the preparatory aspect. He did not doubt that they were willing to integrate ESD using the participatory approach and they may do it for sometime but may revert to the lecture method of teaching after a few days. This is understandable considering their heavy workload.

Theme 4: *ESD as raising the level of consciousness of environmental and development issues*

> In our third conversation session, Alex expressed his own views on ESD:
> *There should be a continuous program of activities in order to raise the level of consciousness on the importance of sustainable development especially with the globalization of the economy. With the globalization of the economy, I'm afraid there will be an extensive exploitation of resources. With TNCs settling in various countries, there is always the tendency for the host country to become the victim of the exploitation of resources. So the way I see it, there should be a continuous education on the importance of SD.*

Alex believed that ESD should not be confined only to academe. The government needs to be involved especially with the dissemination of information. It should formulate policies requiring business companies to look into the issues of the environment and development. He was convinced that through ESD, it is possible to attain progress and development without destroying the environment. While a win-win situation for business and ecology seems unrealistic, Alex nonetheless, felt convinced that ESD should permeate into the corporate world. Business leaders should be made aware of the effects of their business activities.

As ESD needs to involve all sectors of society, Alex held the view that "academe should work hard with government and NGOs so that ESD is not only the work of just one sector but a conglomerate of the work of the different sectors in society." Making SD the centerpiece of every sector in their activities and projects could be a sound strategy for the promotion of environmental awareness.

Alex further clarified that in raising the level of consciousness, critical thinking skills need to be developed. This would bring about the necessity for change - change in values and attitudes. The 3 R's, reuse, reduce and recycle would not be mere slogans. They become part of the people's lifestyles as they come to value their resources. In order to effect this kind of change, Alex advocated the involvement of students in activities that promote environmental care like cleaning the river, tree planting or conducting symposia or fora on environmental issues. This helps in the development of environmental awareness and responsibility. Encouraging student involvement and participation in environmental activities is a significant step especially when one thinks of what usually happens after a new initiative or thrust has been launched. It has often been the case that a program's life span is co-terminus with the enthusiasm that it has generated. Sustainability connotes continuity and therefore, for ESD to be truly alive and dynamic, it is important to translate it into action so that it becomes a continuous day-to-day life experience.

As an administrator, Alex has provided the much-needed drive to bring forth a dynamic and vigorous program of ESD in his department. They have worked with the Peace Education Center on the issue of the Southern Philippines Council on Peace and Development (SPCPD) which was then the current development byword in the region. In line with ESD, student research has been focused on the socio-economic profile of communities to enable them to identify their needs and problems. From these researches, they come up with recommendations which could be adopted by the barangays (the smallest political unit in the Philippines) in their search for solutions. One interesting research which they have conducted centered on the economic profile of the Manobos (one of the ethnic tribes in the region) in one of the barangays of Pigkawayan, a town close to the city. Furthermore, the department has plans to conduct a seminar on

"Muslim Women and Development" to be participated in by students from the colleges in Cotabato. The seminar will revolve around the role of Muslim women and their participation in educating for sustainable development. This information was interesting because this is an area which had not surfaced significantly in my conversations with the research participants.

Theme 5: *The successful promotion and implementation of an ESD program*

Implementing an ESD program demands the support and commitment of everyone. Alex was happy to find the administration very supportive as evidenced by the existence of the Peace Education Center which has provided commendable leadership as well as support, including curriculum materials, for the promotion of ESD. He suggested that ESD could be further promoted through the Peace Education Center

> *I think the Peace Education Center should be given a task to plan what activity would be undertaken that would lead to sustainable development. Of course, in the planning, there should be an involvement of the different sectors of the university so that in the implementation, they can easily solicit their support. The support is very crucial and important.*

In highlighting the importance of the Peace Education Center in promoting ESD, Alex added that it was only when the Peace Education Center was put up and Peace Education was offered in the university that they had stopped cutting the trees in the campus. For him, the presence of many trees in the campus greatly enhances the creation of a very pleasant environment conducive to the promotion of ESD.

For a program to be successful, Alex advocated making some changes or adjustments. This is because changes in the curricular offerings also entail changes in the methods of teaching. With ESD, Alex recommended the adoption of more participatory strategies since "to be true to the philosophy behind the program is to bring about greater involvement and participation as well as the commitment of the people in the community." To institute the necessary changes, teachers need to be trained.

> *When you train teachers, you have to put new knowledge, values and skills. In other words, you are going to change their values and direct their attention on the value of sustainable development. Of course, this can be attained not only with the support of the faculty and students but the top ones, too. Because no matter how good your plans are, without the support from above, everything goes to waste. In other words, from top to bottom, there should be cooperation, participation and involvement and a sense of enthusiasm of those who are involved. So changes should be made on all aspects of the system.*

The active involvement and participation of all participants in the program of ESD is a recurring theme in Alex' explanation of how he would like ESD to be implemented. The changes that naturally come as a result of the introduction of the new program require corresponding changes in the various aspects of the system to prevent it from heading towards failure. Alex had always underscored the importance of cooperation, participation and involvement of administration, faculty, students, the support staff and the wider community.

As a teacher and administrator, Alex firmly stood by his conviction that everybody needs to rally behind the program if the department ever hopes to attain its goals. So strong was this conviction that he admitted to being like a dictator in the process. He justified this by explaining that when the teachers have agreed to adopt the new program, he would expect everybody to support it and work toward its successful implementation. He insisted that he is justified since the plan to adopt the program was the consensus of the group.

To Alex, empowerment to effectively implement ESD springs from the support of the administration and the cooperation of all participants.

FATIMA

Being humane and compassionate resounded in Fatima's view of ESD. Greatly inspired by the success of the Health Resources Development Program (HRDP) in their institution, Fatima recommends a community-based model of ESD.

I have identified three themes from my conversations with Fatima.

1. ESD as developing appreciation for humanity and the indigenous resources in the community

2. Integrating ESD within a community-based curricular program

3. The need for an adequate background knowledge, more resource materials and support to successfully integrate ESD

Theme 1: *ESD as developing appreciation for humanity and the indigenous resources in the community.*

The integration of ESD comes much easier for Fatima when they do their related learning activities in the community as a component of their Health Resources Development Program. In this phase, the staff and the students work towards making the community self-reliant in terms of health practices.

One ESD objective which Fatima regarded as of utmost importance is that "students should be able to appreciate the humanity within the person whom they are serving or get involved with." She firmly believed that this is the first step in the process. She explained the rationale behind this as follows:

> *As you learn to appreciate the humanity within the person whom you relate with, things could be a little bit easier to accept if there's anything to be accepted in the person. or the type of community. It is much easier for us to adopt ways of living in the community because we or our students within themselves have been clarified. Why are they there? The purpose itself... it is towards serving humanity. So with the objective of appreciating humanity first and foremost, that is getting our students more focused with our objectives.*

Appreciating the humanity within the person stands out in Fatima's goal of ESD. Why this is vital could be tied to the nurturing and caring spirit that generally defines the nursing task. Relating this to the students' future role of providing health care to the community, one can understand why the objective should emerge as basic to any real development. Humanity is at the core of the development process hence, the initial step should be geared towards an appreciation of humanity itself. It suggests the promotion of life and the prevention of its destruction. It therefore connotes the continuity of life which is fundamental to SD.

An appreciation for human life subsequently leads to a valuing of resources. To Fatima, another ESD objective is to develop an appreciation for the indigenous resources in the community. Humanity depends on the resources for survival and the continuity of life, hence, the resources must also be valued, protected and cared for in order to meet the needs not only of the present but also of the future. Fatima stressed that this appreciation for the community's resources is in keeping with the guiding principles of the HRDP for "as much as possible we utilize indigenous resources in caring for our patients like the use of our herbal medicine and all that." This is an aspect which greatly offers opportunities for the infusion of environmental care and this could be discussed in relation to social issues. Although Fatima felt that she could integrate ESD better in their community work, she also endeavored to find studies on sustainable development in her Research Methodology class allowing her to present sustainable development issues while focusing on the research process.

Highlighting her concern for humanity and the resources of the community, Fatima argued that "if they can target the rural communities then, it's time-saving and life-saving." Indeed, if one thinks of emergency cases which need immediate hospitalization, one can imagine the number of lives that could be saved if these health and medical services were available in the community. Yet, to Fatima, there is a bigger reason why students need to be exposed to this kind of community service.

> *I can see that with our students exposed to this kind of community-giving services that in a way, would move them to be more empathetic individuals later on when they will be employed or be occupying high positions. If they have been exposed to communities like these, they could reflect back and see... The exposure students had during their college days could play a big role in focusing where to give more priority when it comes to services.*

Theme 2: *Integrating ESD within a community-based curricular program*

In the classroom and in their community work, Fatima uses participatory strategies. At times, she designs and presents situations related to the theories they discuss and then she lets the students reflect on these after which they could do some participatory activities. She expressed the view that by getting the students involved in the planning, implementation and evaluation, their decision-making skills are also enhanced. She asserted that before any decision-making can be done, students need to be able to critically analyze issues pertaining to the situation. ESD involves not only the acquisition of environmental facts or just visiting scenic places but also being able to look critically into various environmental and development issues which are fundamental to any decision-making process or before taking any necessary action.

Fatima explained that in the entry phase which covers the pre-planning stage of their research activity, they usually try first to examine and assess the problems in the community. If there are problems, the students design a plan in which they study and reflect on the issues related to the problems. Finally, the resolution to the conflict is left to the community. Fatima contended that through this learning experience, the students come face to face with the realities in the community like the possibility of conflicts arising from interacting with one another. She found out that sometimes, miscommunication triggers these conflicts. To Fatima, these conflicts need to be immediately resolved as they tend to hinder the development process. They could disengage the members from participating so once the problems are detected, they need to be addressed no matter how trivial they may seem to be. When these problems are not nipped in the bud, they could potentially create bigger conflicts.

Integrating ESD within a community-based curricular framework has been very effective in the nursing program. Fatima believed that the involvement and participation not only of the students but also of the community members is an important component. Theory and praxis go hand in hand and the real needs and problems of the community especially those involving health and the environment are being addressed. Research topics are based on the community's needs and drawn from resources. For example, in one investigative project of a student the problem revolved around the effects of pesticide use on the health of farmers. The findings revealed the need for farmers to observe precautionary measures when applying pesticides in their farms. In her classes, Fatima encourages the students to look beyond what is in the hospital when searching for a research problem. She claimed that there are many environmental and development issues that could be looked into such as noise pollution, street foods or drinking water which impact on people's health.

A very important aspect in this framework is the significance given to community values, cultural practices and indigenous wisdom which are ignored in many academic courses. Likewise, students come to recognize the interrelationships between the school and the community as well as their relationship with their environment. To Fatima, ESD could be best integrated within a community-based program.

Theme 3: *The need for an adequate background knowledge, more resource materials and support to successfully integrate ESD*

With regard to the integration of ESD in the different subject areas in their curriculum, Fatima revealed that it is not as structured as they have done it with Values Education. She attributed this to a few faculty members' lack or inadequacy of background knowledge of ESD. She claimed however, that most of those who have taken Peace Education courses have at least gained some background knowledge and skills that could bolster their confidence to integrate ESD in the subjects they teach.

To successfully implement the integration of ESD in the different subject areas, there is a need for an institutional policy that would enjoin all the colleges to participate. Such a policy would encourage every faculty to take concrete steps to work collectively in the process of updating the syllabi to include the development of ESD concepts, skills and values as an integral part of the course outline. In a way, since they have integrated Values Education in their subjects, the values pertaining to environmental care have also been included in the course outlines. Peace Education and Values Education are very much related to ESD that they could be along similar frameworks. Fatima supported this view and pointed out that SD concepts have been integrated in their subjects through Values Education.

Fatima strongly expressed the view that it would be difficult for a teacher who does not have the necessary background or exposure to ESD to integrate it in the courses he/she teaches. Attempting to do so could jeopardize the successful implementation of the program and could lead to consequences detrimental to the students. She argued, "How can the students be clarified if the teacher herself is not clarified?" She proposed that if the university formally launches a project on ESD, the implementors of the program should undergo a specific seminar or training to prepare them adequately for it. I fully agreed with Fatima on this score adding that when a teacher is inadequately equipped for the task, he/she would also lack the confidence to teach it. Furthermore, as is often claimed, one can not share what one does not have.

Fatima asserted that her strong motivation to learn more about ESD is giving her the big boost to integrate it in the subjects she teaches. This drive makes her more open to learning and to her, this is a vital element in the enhancement of her teaching competence. Indeed, learning is a continuous process and when one has the motivation to learn, his/her thirst for more knowledge becomes insatiable.

Like the other research participants, Fatima also felt that the goals of the university as expressed in the Vision-Mission reflect the objectives of ESD. The institution's concern for the "deprived, depressed or marginalized" members of the population and the development of authentic professionals bring into focus several issues that relate to the various dimensions of SD. Recognizing this harmony between the university's goals and the objectives of ESD, Fatima is of the opinion that this necessitates making it a part of the course outline as they have done it with Values Education. It would logically follow that resource materials will be needed for this purpose. In this regard, Fatima expressed that she would like to read more books and articles on the subject. Of what they have done so far in ESD, Fatima humbly admitted, "It's not yet concrete. How would ESD per se be like in the context of nursing? I think we need more... something to help us out to develop some kind of a framework. Maybe it would help if we have more resources or references."

Although she feels the need for more resource materials, Fatima nevertheless considered her readings on Values Clarification, Experiential Learning and her courses in Peace Education very useful in her teaching especially when she plans participatory activities in her classes. She particularly identified the book, "Peace Education: Framework for the Philippines" by Toh and Cawagas (1987) as very relevant in the integration of ESD for it presents many SD issues. I informed Fatima that the other research participants echoed a similar view with regard to the relationship of Peace Education and Values Education to ESD and that the literature on ESD also highlights peace and values as important elements.

Fatima mentioned a very interesting feature of the instructional materials they use. She makes them research-oriented because "with it, we explore more on the capabilities of our students for there are certain assets or talents that we could utilize or enhance."

Tapping the potential of the students to do research certainly develops their critical and reflective thinking skills which are important ESD objectives.

She described her students' participation in a program conducted at the hospital to illustrate how critical thinking skills are developed.

> *In the hospital where we expose our students, there is one program in which we play the role of implementors. This is the program of the DOH (Department of Health) in the hospital as a Center of Wellness. Within such a program, they have a clean and green program making the hospital more conducive for patient recovery so we try to see how the waste management is properly organized. So our students realize what is in the program. We do not merely treat it as " These, you throw them here." We always clarify how they, as students, contribute to the betterment of the program not only because it is being evaluated of its progress but in view of its effects to humanity in general.*

Fatima's perspectives of ESD reveal that unlike the conventional way of program delivery where the steps are outlined and followed to a certain degree of precision, ESD in the context of health and nursing programs explain the *whys* in conjunction with the *whats* and the *hows.* I definitely agreed with her since I recalled past government programs on Cleanliness and Beautification and Tree Planting in which the initial enthusiasm was never sustained. They were soon forgotten with no considerable impact on people's consciousness that could stir them to ask the "hows" and the "whys." Sustainability connotes continuity and therefore, ESD should leave an impact that lingers not only on people's minds but in their way of life.

Fatima expressed the view that a conceptual framework is necessary to proceed in this direction. To design a program, teachers need a clearer perspective and referring to my research work, she relayed the hope that when completed, it could provide useful information and valuable guidelines.

This point led us to look into the organizational climate of the institution in terms of the relationships between the administration and the faculty, faculty and faculty, support staff and students and its effects in the teaching of ESD. To successfully carry out a program, Fatima is of the conviction that a collaborative spirit should guide such a move. She fully appreciated the support of the college as evidenced by the formation of the HRDP which basically addresses many of the issues in their peace education framework. Likewise, she pointed out that teachers who had the opportunity to attend the Peace Education seminars and workshops offered by the Office of the VPAA are better able to grasp the philosophy behind the conceptualization of HRDP. As they get exposed to the realities of the community, Fatima was convinced that they can relate better to the issues. As well, they tend to have a greater degree of enthusiasm towards the project or activity which accounts for the higher level of participation. She was grateful that the administration had been very supportive of the program and regarded this as a big success factor.

The physical setup of the institution is another plus factor for Fatima in her integration of ESD. By comparing the SMU campus with that of the university where she studied in Manila, she can readily see the difference between the two sites. While it is true that the university campus in Manila was also well-maintained and the buildings were also well-kept, she felt that it could not respond to her need for serenity and a space to commune with nature. She found the school environment too confining depriving her of a breath of fresh air. In contrast, the environment at SMU gives a feeling of freedom owing to its wide open spaces. The tall trees around the campus, likewise add to the very refreshing academic atmosphere.

Fatima expressed her views on how she could be more empowered to teach ESD with these words: "I believe I will be more empowered if I will be given more opportunities especially to develop myself because exposure makes a person more enhanced and more enriched."

This statement indicated her concern to teach ESD along transformative lines which she firmly believed necessitates that teachers should also undergo a kind of transformation in order to fully understand the commitment and the responsibility of teaching ESD.

ESTELA

Estela's observations and insights into some values and practices in society reveal her concerns about the future. A radical tone is reflected in her straightforward analysis of various issues related to education, development and the environment. Manifesting a strong spiritual faith, she always puts forward a hopeful note for every bleak situation that surfaces in our discussions. As we delved into various topics, our experiences in the teaching of Language and Literature provided a fertile ground for a critical examination of the issues related to ESD.

From the conversations we had, the following themes emerged:

1. The content of ESD.
2. Integrating ESD in Language and Literature
3. *Success* and the *good life* in the development of ESD values
4. Hope and spirituality in ESD

Theme 1: *The content of ESD*

In our conversation, Estela mentioned that as a faculty, they have not formally discussed ESD whether at the department, college or institutional level. In spite of this however, she believed that with the seminars on Environmental Education which they have attended, the integration of ESD should not be much of a problem. She claimed that they have always associated the environment with SD because it was what they are familiar with. She explained that ordinarily, some people think that ESD is about the environment. But when it is closely examined, they come to recognize that environmental issues are deeply enmeshed with development issues This explains why issues of structural violence, human rights, cultural solidarity, and militarization are included because they usually emerge when dealing with environmental problems. While environmental education is very much a part of ESD, it needs to be reconceptualized in relation to development to make it more relevant to the present context. To Estela, the ecological dimension of sustainable development is very vital because it embodies the resources which constitute the core of the development process. However, the use of resources is governed by economic, political and social imperatives as well as cultural and ethical considerations that make development sustainable. To Estela, the content of ESD therefore, covers environmental issues and how they are linked with the other aspects of development.

While probing deeper into the relationship between development and environment, Estela added that population education is part of ESD because human resources are part of the ecosystem and are therefore, equally important in SD. She argued that people and resources are complementary partners in the development process and impact on each other.

In examining the Vision-Mission of the university, Estela identified the development of values as expressed in their institution's Vision-Mission as congruent to the goals of ESD. The Vision-Mission emphasizes the development of such values as justice, peace and love. Estela expressed her interpretation of these values: "It's really on the values. It may be general but when we talk of values of justice, peace and love, when we talk of love, it is not only for ourselves but all of creation. So that's how I interpret it."

Peace, justice and love are values which Estela considered as the foundation for sustainability. By focusing on "all of creation," Estela implied that there is a need to expand its meaning. It must go beyond a human being's love for his/her fellow human beings, hence, it should transcend human boundaries. Estela pointed out that this is how she describes her relationship with her environment. Correspondingly, for her, the meanings attached to these values take on added dimensions. Justice for instance, would not only be viewed through the perspective of the individual nor take into consideration what is fair and just for man/woman but also for other forms of creation. Since these three values tend to overlap, a further reworking of how they can be meaningfully developed and included in the scope and content of ESD is necessary. Our discussion of the development of values brought into questioning what these values mean in the context of ESD.

Theme 2: *Integrating ESD in Language and Literature*

The topic of integrating ESD in the different subjects was brought early on into the conversation by Estela as she shared her experiential background with regard to ESD. As a member of a research team in their institution which was working on a project proposal on SD, she had the chance to sit down with the group to discuss how to integrate ESD in the different subjects. She explained that in teaching basic grammar, integrating ESD is not really very difficult because their English program is reading-based. A reading selection is used by the teacher to start the lesson after which the class discusses its content. Language points can then be identified from the selection. She confessed that she experienced a little difficulty doing it before in Literature. She recalled preparing some kind of a progress report which she submitted to her professor concerning the integration of Environmental Education in Literature. Estela recalled, "So what I did was to present that poem of Wordsworth, 'The World Is Too Much With Us," a sonnet. That's how I was able to integrate something about the environment, how we tend to abuse the environment."

In many literature books, it is not very difficult to find poems and stories that deal with nature such as trees, flowers, birds, sea and other forms of creation. In years past, the general objective in teaching nature poems or stories had usually been towards the development of an appreciation for the beauty of nature and the literary qualities based on the genre in which it is written. However, the focus did not move beyond the utilitarian and/or aesthetic aspects towards a fuller and deeper understanding of the interrelationships among the elements of the ecosystem and a valuing of the complex web of life.

Estela claimed that although she integrated ESD whenever there was an opportunity, she sometimes found it difficult to do so. She was convinced however, by what her professor in Peace Education told her regarding the integration of values. The integration of a particular value demands that the teacher does not leave it to chance hence, the necessity of making it a part of the lesson plan. Integration in the process of teaching should not be confused with *incidental teaching* where the infusion of a concept related to the subject matter comes only as a result of an idea springing forth unexpectedly within the course of a lesson. Integration is a deliberate and well-thought out process that involves careful planning and continuous assessment or evaluation. Estela elaborated on how she integrates ESD in her English class:

> *In our English 1 class, we have reading selections such as "The Perils of Plastic Pollution" and "The Human Community". One of our early reading selections has something to do with garbage so I asked my students to look for articles in the newspapers and then paste them on bond paper. For English 1, we looked for be-verbs...I told them to read the article first, then to summarize and give the gist, .interview their classmate next to them and find out what the article is all about. That's for my grammar class. We went back to "The Perils of Plastic Pollution' when we tackled the perfect aspects of the verb. Ordinarily ,we discuss the selection first, then we go into the language portion.*

The main channel used for the integration of ESD in English and Literature is the instructional materials. Estela explained that in their department, the English teachers have a workbook which they prepared sometime in the '80s. Before that, they did not have a specific text and because of the length of time to wait for the books to arrive if they ordered in Manila, they decided to prepare their own materials. With the evolving trends in Language Teaching, they decided to integrate Reading (which used to be a separate subject) with Language and offered it as a five-unit course. Estela had spent three summers attending seminars in one of the prime universities in Manila, on the development of instructional materials, the teaching of writing, and teaching ESP (English for Specific Purposes) so she was commissioned to prepare the instructional materials. She explained that because Peace Education is offered as a subject in the undergraduate program, reading selections on peace and SD issues were included in the workbook.

As their reading selections are drawn from various disciplines, Estela remarked that their class could be mistaken for a class in Sociology or Science. This is understandable because the discussion would naturally be woven around the central theme of the selection. The process brings a holistic approach to teaching which offers opportunities for students to look at learning not in terms of compartmentalized units but of interrelated themes that cut across subject disciplines. Both Estela and I were mindful however, that the notion of an interdisciplinary approach in the choice of subject matter content could still be viewed as a radical restructuring of the general scheme of curricular organization and could still be received with skepticism and even opposition by teachers used to the present compartmentalized curricular structure.

Estela employed various strategies in her class in Communication Arts w/ Reading.

> *As for strategies, we do songwriting, debates, role plays... Like before, we discussed about litter. Litter is a problem in our city. I asked the students to collect materials so, they make clippings. We did a pair activity. One would summarize the article while the other would listen. Then, they write one paragraph about the report using the verbs.*

In Estela's description of her teaching strategies, it was very evident that provisions were made for the wider participation and greater involvement of the students. This is definitely an important consideration in deciding the effectiveness of an ESD teaching strategy. By making the students actively engaged in the learning process, they become more motivated to learn leading them to recognize the relevance of the lesson or activity in their lives. The process also highlights the significance of basic ESD values such as interdependence and mutual sharing of responsibilities. Estela however, identified three constraints in the use of the strategies she mentioned:

> *Usually, the problem is time and the noise. Look at how our classrooms are arranged. Noise is not always destructive but our colleagues may not understand us especially when our students get so carried away. Like hat songwriting activity we had before. We had to go outside. That's it, noise and time and maybe for some teachers, the problem of preparation.*

Estela explained that although the problem of preparation may confront some teachers, this could easily be addressed. Through the teacher's creativity and ingenuity, several interesting activities could be designed. She described some of these activities which students really enjoy doing:

> *As for materials on the environment, we have calendars. For example, in description, they can write on 'What kind of Earth would you like?' Imagine if man/woman does not change his/her ways fifty years from now... write an essay. Imagine, you are a part of nature like a bird, an animal, a river, then write a letter to someone. 'Dear Estela, I'm an earthworm,' Let them put themselves into the shoes of this particular creation. We did it during our first seminar in Peace Education and although it was done differently, it gave me the idea. They'd write, 'What do you do to destroy...' or ' You will no longer hear our songs' I said this is a writing class so I asked them to write a letter to humanity and then, sign it. It's beautiful!*

The varied activities described by Estela clearly indicate that the integration of ESD makes her English classes more interesting and challenging to the students. Students escape the boredom associated with mechanical drills in the study of grammar and the development of language skills because these are carried out through a more functional and meaningful approach. Language skills are learned as they engage in activities that enable them to examine problems pertaining to SD which they confront in their everyday lives. As well, these activities help them to critically reflect and analyze these issues in a manner which also fosters their imaginative and creative abilities.

Estela noted that by bringing ESD in Language and Literature through participatory activities, a kind of transformation also unfolds in the way knowledge, skills and values are developed. Education takes on a new dimension as students hurdle the shift from being a passive recipient to an active and responsible participant in the learning process.

Theme 3: *"Success" and the "good life" in the development of ESD values*

The protection of the environment which includes the resources that are necessary in attaining development has been underscored by Estela as a major theme in ESD. She stressed that educators and students should realize that they have a responsibility towards the future generations. Assuming such a responsibility carries with it a set of values that must be practised and lived. This makes the development of values an important dimension of ESD.

To Estela, the development of environmental values involves a different way of looking at success or what the good life is. In my first conversation with Estela, she had informed me of an upcoming event in their university. For the first time, the university was giving tribute to their graduates who have been successful in their fields. She wondered how "success" was determined. She asked, "What is the measurement of success? Like our politicians.....how sure are we that those politicians are honest and that they are living up to the values that we tried to inculcate in them?"

She expressed similar reservations on the issue of holding beauty contests. Apparently, this is another angle to what has been popularly held as "success." As dean at that time, she had dissuaded the students from holding beauty contests but the student leaders have argued that it was what the students wanted. She had observed that in contests like these, their gym would be filled to capacity but if it would be a debate on issues, the students are literally forced to go there. Estela's reflections and insights on these two issues brought into question what "success" really means.

In a related light, reflecting on what the good life means, she asked, "Does it mean being able to enjoy what the world can provide even if during my lifetime, I would not be able to use all of them?" Aware of the greed and the inclination to accumulate material goods as having afflicted so many people, she raised the concern that "sometimes we fear that we ought to have these things in order to be satisfied."

Estela responded to her questioning of the meaning of the good life by advocating for simplicity in lifestyles. She asserted that with teachers as role models, this value can be taught through the examples they demonstrate inside and outside the classroom. What students see in their teachers in terms of behavior or practices are sometimes picked up unconsciously because teachers have such a strong influence on their students.

Estela also believed that the activities in the classroom could serve as the instrument for the development of simple lifestyles. Usually, it does not take long for sttudents to realize that there are things that they can do in their own small way. These basic things could serve as starting points. Estela felt that it is better to start with the small *doable* things because thinking deeply about the big things could get students frustrated and overwhelmed that they may end up trapped in a web of "helplessness and hopelessness."

Theme 4: *Hope and spirituality in ESD*

The development of values presupposes the acquisition of knowledge, skills and attitudes that lead to their birth and nurturing. Thus, Estela clarified that she views ESD as encompassing the development of knowledge, skills, attitudes and values. Of the development of attitudes, she explained: "In terms of attitudes, I mean having the courage to work and to fight for what is right."

Estela revealed a part of herself when she confessed to not having the courage to fight back which she felt could be interpreted by others as a form of cowardice but which she strongly refuted. She maintained that it was not necessarily so, because after all, she had not been "an activist ever since." Silence may be regarded as cowardice but it could also be viewed as a form of strength.

This point in our conversation was puzzling to me as I was not sure of what Estela was referring to. There was an ambiguity with what she had alluded to but her words brought forth a clearer picture of her inner self. Estela provided a rationale for not going into the front line. "Because as for me... it's not discouraging. I'm not giving up. There is always that hopeful note... the romantic in me... the idealistic in me."

A kind of tension seemed to be gnawing at Estela's inner world. There was the grim reality of despair, the crippling malaise that afflicts the wounded. But why this lack of courage to fight back? Is she overcome by a sense of resignation and defeat? Whatever it was that Estela tried to imply, it seemed that the odds were just overwhelming. But it was a reality which she could not escape from and this was where her real strength surfaced. She declared she was not yet at the point of surrendering. She still held on tenaciously to the idea of always "ending in a hopeful note."

The romantic side of Estela comes out gracefully in her renditions of hope. I recalled that in our discussion of SD issues, her perception of everyday events were often brought to the surface. As we discussed about the media, she brought to my attention the layers of hypocrisy that sugar-coat the expression of political language. She also pointed to the hype that gloss over the glitter and fantasy of beauty contests and success awards. In our discussion about current events, she unveiled the ideological slant that feeds government's claims and official pronouncements of economic growth, development and progress. That her optimism still emerged amidst her awareness and albeit, an inner rage and silent rebellion over the violence, inconsistencies and inequities perpetuated by society and its structures, was a manifestation of her abiding faith in humanity's potential for transformation.

Such a potential for transformation hinges on a sense of empowerment that to Estela emanates from the spiritual. She reflected:

> *... every now and then, I remind my students that in everything they do, they should include God into the picture. One does not have to be a Catholic but one has to believe that there is somebody up there who puts everything in order, but of course, we should not put everything in His hands... So we can not say "Well, anyway there is God. He can take care of cleaning up our mess." Because it is also our responsibility. I think there should always be that spirituality in man.*

To Estela, responsibility coupled with spirituality bring about that kind of empowerment necessary for effecting the kind of transformation in ESD. With this view, she affirmed that empowerment resides in her commitment towards the fulfillment of her responsibilities as an ESD educator.

KRIS

In spite of her many responsibilities in their department, Kris took time to come to our third conversation at the start of the second term. This had been put off for quite a few times because we could not fit it into our schedules. My conversation session with her brought forth several issues regarding the integration of ESD in the subjects she teaches. She expressed concern over the difficulty of finding a Filipino perspective or setting in most of the books in Science especially in Ecology. Her commitment to reach out to the wider community is demonstrated in her interest in providing science information updates not only to students but to teachers in the area.

I have identified the following themes in my discussion of the concept of ESD with Kris.

1. Refocusing educational goals towards ESD
2. Problems in the use of participatory strategies in teaching ESD
3. Searching for the “Filipino” in ESD instructional materials
4. Alternative ways to promote ESD

Theme 1: *Refocusing educational goals towards ESD*

My second and third conversations with Kris covered a variety of topics dealing with values, development indicators and education. As our discussion turned to the ecological problems that have resulted from the drive to attain "progress," Kris underscored the need to develop people’s awareness of the links between "development " or "progress " and the environment. We therefore, focused our conversation on the topic of education as the instrument for effecting transformation through consciousness-raising.

While environmental education has been taught in the schools for the past several years, Kris and I shared the view that there is a need to reexamine its goals, content and pedagogy and refocus it towards ESD. This is because the dominant discourse of environmental education adheres to a technocentric mode with emphasis on technological solutions to environmental problems. Kris described how the three kinds of education, *about, through* and *for* are employed in the teaching of the natural sciences. By discussing about the different ecosystems from a technical or scientific perspective, students acquire knowledge and information *about* their environment. Kris also organized field trips so the students could be exposed to different environments as a way to enrich their experiences. This was educating them *through* the environment. After the trip, she would ask the students to share their observations and experiences. Their knowledge expands with the exposure and when they are presented with environmental issues, they come to a better understanding of the factors that are involved in these issues. This illustrates education *for* the environment in which the students develop their cognitive skills that could help them make sound decisions in solving environmental problems. This aspect relates to what Kris had earlier alluded to in terms of the need to redirect the goals of environmental education. Early on in the conversation, Kris had emphasized the need to refocus the goals from resource conservation to that of sustainability. This shift makes education *for* the environment relevant in evolving a conceptual framework of ESD.

In terms of redirecting their goals, Kris remarked that in the process of revising their syllabi, teachers need to be guided by the Vision-Mission of their institution. Although the university's Vision-Mission does not explicitly mention environmental goals, she found that it is nevertheless, reflective of ESD goals particularly on the following points:

> To address ourselves to its diverse socio-economic, cultural and political needs as witnesses to and instrument for total human development;
>
> To give special attention to the poor, depressed, oppressed marginalized and exploited particularly in the active participation of the ministries and apostolate of the Oblates in the mission of the local church to live a lifestyle expressive of Christian values, respecting and promoting life and human rights, working for truth, justice, love and peace;
>
> To enable students to become authentic persons to the end that some Filipinism is achieved in them and through them.
>
> (SMU Information Bulletin, 1995)

The commitment of the institution to "total human development," its concern for the "poor, deprived, oppressed, marginalized and exploited," its advocacy for the "respect and promotion of life and human rights and adherence to "truth, justice, love and peace" reflect the very same goals that Kris believes should be the focus of ESD.

In our previous conversation, she had underscored the significance of life and its preservation as central to the goal of sustainable development. She elaborated: "In any progress, GNP is the usual measure but we can not say that it is an adequate measure of SD because often with economic growth, so many things are destroyed. We have to consider life, life preservation."

In essence, balance and the preservation of life are the foundations underlying Kris' concept of ESD. In our discussion of SD, she had stressed the need for balance" not only of human life but also of the "flora and the fauna."

Redirecting their educational goals is what Kris sees as an urgent need, hence, the reason for the current syllabi revision in their department. According to her, they revise their syllabi every three years to make their goals responsive to current issues. She recalled that they had revised their syllabi before to incorporate Peace Education issues. The environmental focus at that time was on conservation and the regeneration of the natural resources. Kris is of the opinion that with the focus on ESD, there is a greater awareness of the effects of what has been regarded as "development" or "progress" over the past several years. By taking into consideration the needs of future generations, Kris maintained the view that there is a need to challenge or reexamine the concept of "progress" or "development." This brings into light the need for a corresponding refocusing of the content or subject matter of ESD.

The environmental issues surrounding the "development" dilemma are the themes Kris considers to be integrated in their syllabus. Like Estela, she emphasized that when the plan is to really integrate these themes, they should appear as an integral part of the syllabus. The idea that real integration means that a particular theme is woven within the lesson as part of a unified whole became a focal point in our conversation. Some of the participants have expressed that they integrate ESD when the opportunity arises as when they find entry points where they can infuse a particular ESD concept. Commenting that some of the teachers described integration as synonymous to incidental teaching, I raised this issue with Kris. She saw the process as previously implemented like incidental teaching and one could readily identify some of its weaknesses as has been pointed out in the discussion with the other participants. Aware of these possible defects, Kris affirmed that the process of integration demands careful planning and should really be made a concrete part of the syllabus.

By weaving the ESD themes in the course outline, teachers would be better guided in presenting the lesson as a unified whole. The links between and among the parts will enable the students to view learning not as fragmented and unrelated units but as interrelated parts of the same whole. In ESD, developing the ability to recognize and establish relationships could be a relevant objective as it leads to a better understanding of the problems and consequently, bring about more sound decisions in determining solutions.

Theme 2: *Problems in the use of participatory strategies in integrating ESD*

Kris believed that the most effective way to develop an awareness of environmental issues is to expose the students to sites where they can actually experience the problem first-hand. She claimed that in some of the American films she had watched, she had observed that "they are exposing their students to the actual situation." However, she identified constraints in the use of this strategy. Aside from the financial costs and time factor, teachers and students also have other classes to attend and going on a field trip means missing some classes scheduled on those days. This would necessitate going through the complex reworking of their schedules on the particular period of the trip. This entails putting up with a lot of formalities such as getting permits and approvals, making requests, and filling out forms in a bureaucratic structure that could leave anyone feeling frustrated when things get out of hand.

In the use of participatory strategies such as small group discussions, role playing, rap sessions, and other techniques they learned in their Peace Education courses, Kris acknowledges their effectiveness in her integration of ESD in terms of the students' level of motivation for learning and real understanding. However, she is also aware that on the part of the students with a regular load of 21 units, there is the problem of time.

According to Kris, to be able to participate actively in the discussion and analysis of a certain issue, a student needs to do extensive reading to acquire sufficient background information. Considering the number of subjects these students have, it would be unrealistic to assume that they have covered a number of readings with the limited time they have. With their different schedules, group work may not be very appropriate as they may not have a common time to work on their assignments together. Kris contended that just by allowing each group to work out a common time, half of the period for direct instruction would soon be over. While this could easily be regarded as time wasted which could have been used for instruction instead, it can be argued that the skills that are being developed in the process may in the long run, help facilitate learning. The experience could help students learn how to learn in a meaningful way.

On the teachers' side, apart from the limitations of time to plan and prepare thoroughly and adequately, Kris was aware that with the broad scope of the content of the subjects she teaches, she needed to cover a big chunk of subject matter within a limited time. Employing participatory approaches would require considerable time to complete one unit thus, there was the possibility that other units may not be covered during the term. Teachers would then be scrambling to finish all the topics in their syllabus towards the end of the term and in doing so, discussion on these topics could turn out wanting and inadequate in relation to students' learning. This was a reality that Kris tried to raise.

However, this situation can be addressed by examining the structure and organization of the course content. By adopting a holistic approach in the organization of subject matter, related topics can be integrated to avoid unnecessary duplication and sequenced to bring about a unified whole.

Another problem that arises from her use of participatory strategies lies in the process of evaluation. Kris contended that there is a need to evaluate the students' participation and performance through the use of a set of criteria. She asserted that even with the use of a set of criteria, there is always that element of subjectivity in the process.

An observation that Kris considered as one of the laments of teaching is that "students are lazy to go to the library to read some journals." She found that students only read what is assigned to them and that they "do not go beyond to broaden their understanding of current issues." As Kris presented the issue of language as another problem, the reason for the students' indifference towards reading journals could be easily traced. She explained:

> *One more problem is their command of the language. I tell them, okay, you can use Filipino. You might understand it better. Maybe you can express yourselves better. I tell them to read journals in the sciences...Biology, Botany, Zoology books. The next meeting when we have oral recitation. it's just the same, it's frustrating. It seems the words we use in science are very alien to them. Terminologies, as well as basic concepts are really important.*

A very interesting connection between the students apparent "laziness to read" and the problem of language can be drawn from Kris' explanation. The lack of interest to read could be traced to the fact that the articles from the journals or books are beyond the students' capacity to comprehend. They lack the vocabulary and their reading level does not enable them to cope with the language of Science. While a reexamination of the instructional materials used and designing a program to raise the students' linguistic competence could be an initial step to address the root of the problem, Kris and those in the Natural Sciences Department seemed to view the issue from a different angle.

> *What we do in the Natural Sciences Department is to sponsor seminars for the secondary school teachers or elementary school teachers. We're reaching out to the teachers because that's our problem also. The basic concepts are important so they can understand the current issues.*

The students in Kris' class did not seem to meet certain expectations with regard to their skills and their understanding of the basic concepts in Science. One gets the impression that these were supposed to have been learned in the lower levels such as in the elementary or secondary level. That there was failure to do so is reflected in the perceived necessity to provide seminar-workshops, a kind of in-service training to the science teachers in the elementary or secondary levels. Kris explained that what usually happens is a vicious cycle of putting the blame on one another such as the tertiary instructors putting the blame on secondary teachers who in turn blame the elementary teachers. Likewise the elementary teachers could also put the blame back on the college instructors for afterall they had graduated from the same institution. As Kris put it, "So it's just like the cycle of the chicken and the egg." To stop blaming the teachers, Kris felt that these seminar-workshops will be a way of updating the teachers on the basic concepts. This is also their way of reaching out to the wider community especially because it enables them to reach out to the teachers in the rural areas.

Although the department looks at the problem from another point of view, the issues raised in our conversation implied that it could also look inward to examine its own pedagogy. In the preparation of would-be teachers, a reexamination of the different aspects of the curriculum such as the goals, strategies, materials and evaluation procedures may be in order.

Theme 3: *The search for the "Filipino" in ESD instructional materials*

As our conversation turned to books and language, we soon shifted to a discussion of the resource materials on SD. Kris mentioned that there are reading materials in the Peace Education Center which the students can access. Some of these materials are newspaper clippings, photocopied articles and pamphlets which have been neatly classified according to subject themes. Like most of the research participants, Kris finds the Peace Education Center collection very useful in their integration of Peace Education issues which include issues on sustainable development.

Stressing the need for students to become independent learners, Kris referred to the Vision-Mission specifically on the part which mentions the "development of authentic persons and professionals." She brought this out because she felt that students should know where and how to search for materials or references when they are given assignments. They should not be very dependent on their teachers nor should they expect that everything be dictated to them. This way, they "expand their horizons" and become independent learners.

A tone of firmness was evident in Kris' words. It rang with a determination to make students acquire basic research or library skills which she expected to have been developed by them even before they entered college. She claimed that giving them all the information such as the book title and page numbers will not help them because they will not learn how to search for materials by themselves.

Kris found the university library's collection of reference books on the environment adequate for the students' needs. She noted however, the absence of a Filipino setting in these materials. This observation brings the last part of the Vision-Mission into light: "To enable students to become authentic persons to the end that some **Filipinism** is achieved in them and through them" (SMU Information Bulletin, 1995, underscoring supplied).

> *The problem is the absence of a Filipino setting especially on Ecology. Because you cannot apply these...these are their findings in other countries, not here in the Philippines. Like in Earth Science...at least there was one Filipino author who was able to write something regarding the Philippines... so we use that.*

Relying on books with foreign-based settings and perspectives as they are mostly written by foreign authors especially in Science is a sad reality in the country. Kris believed that since these books present foreign data, it is difficult to fit them into the Philippine context. Although science concepts have that quality of universality, students' learning could assume a certain degree of impracticability when teachers are very dependent on the text that they fail to relate or adopt its content to local issues.

The search for the "Filipino" in books and other resource materials is a significant point considering how knowledge and information are often regarded by some teachers. In our conversation, I recalled and related an incident when I was a student. I challenged my professor's statistical formula because it did not jibe with what I had found in my readings. When he learned that my reference book was authored by a Filipino, he immediately disregarded my point implying that my source could not be more reliable than his own western-authored material. While he admitted to and apologized for his error a few days later, his attitude towards the local was indicative of how the value of certain knowledge or information was determined. It therefore brings into question how knowledge and information are valued and preferred. Kris and I agreed that this privileging of western thought could be a factor in the dearth of Filipino science books and publications in spite of rapid advancements in the field of publishing and information technology. It could also be indirectly attributed to the textbook scandals that have plagued the education department in the awarding of contracts which could frustrate genuine Filipino writers and publishers to produce more.

It is significant to note however, that during my research field trip, the dailies carried many news items on ESD issues which bore the Filipino ingredient. Kris considered it interesting because, when these news items are used in the classroom, students can see the relevance of what they are discussing to their own lives. News reports are more motivating to students because they are easier to comprehend being written in a voice (even when it is in English) that is theirs. It is easier for students to identify with the issues because these are reflective of their own experiences.

Theme 4: *Alternative ways to promote ESD*

Kris' search for the Filipino in books and resource materials brought into light other ways of gaining knowledge or gathering information or data. She observed that when students do their research, they have the tendency to rely solely on books and other printed materials. In Kris' department, activities connected to their science update have provided students with background knowledge on certain issues. At one time, they discussed the case of the Mt. Apo geothermal plant. In these science update activities, a speaker usually explains the issues and this is followed by an open forum. Kris and the other teachers also give support to the speaker during the open forum by sharing their ideas.

Likewise, the department also sponsors seminars involving students and the teachers in the secondary schools. Sometimes, they invite students from other schools to view their laboratory and to attend lectures on certain issues. On these occasions, Kris assigns responsibilities to her students which form part of their exposure and training. These activities provide alternative ways for students to gain knowledge and information through their experiences of participating and becoming more actively involved in the discussion of the issues.

Kris' views concerning instructional materials in ESD brought into question some existing notions of the ways of doing research and the absence of a Filipino setting or perspective in Science reference books and journals. Our discussion of these topics enabled us to see how ESD brings about transformation in several aspects of the educational process. Alternative sources or ways can always be found or devised by a resourceful teacher.

Aware of the constraints, Kris confessed that she finds empowerment when she feels her students regard her as "a teacher in authority" who commands their respect because of her knowledge and expertise. This is built up through her constant emphasis that the issues they discuss are very important not only for the present but also for their children in the future. To be seen as someone in authority, she is of the view that she needs to grow professionally.

JENNY

In the last conversation I had with Jenny, we mainly focused on the concept of ESD. Like most of the research participants, she had a very busy schedule especially because the first term was about to end.

Jenny looks at the practical side of ESD with her emphasis on its significance to the simple and little things that are often taken for granted in the classroom. In our discussion, she had provided very interesting examples on how she integrated ESD in the engineering and environmental science subjects she teaches.

I have identified the following themes in my conversation with Jenny:

1. ESD as the development of awareness of environmental care.
2. ESD in the context of Engineering.
3. Integrating ESD through a group sharing strategy
4. ESD outside the classroom setting.

Theme 1: *ESD as the development of awareness of the importance of environmental care*

In her explanation of her understanding of ESD, Jenny made a very interesting observation regarding Environmental Science and Peace Education. Instead of establishing the distinction between the two, Jenny puts them together to bring about an awareness of environmental care.

> *At first, we had Environmental Science and then, Peace Education. What could be done is to translate what had been learned in these two courses into action. What had been learned can provide students with a perspective on how these can be carried out beyond the confines of the institution.*

Jenny's remarks alluded to Environmental Science and Peace Education as complementary in the sense that Environmental Science brings forth background information and concepts regarding the environment while Peace Education, looks at environmental care as one of its dimensions in relation to issues of development and peace.

Jenny viewed ESD as basically the development of awareness of environmental care. She believed however, that there are avenues other than their subject in Environmental Science where such an awareness can be developed. She mentioned listening to the radio, watching television, reading the newspapers or just by observing what is happening in their environment as possible ways of making people realize that the utter disregard for the environment greatly affects their lives and that of their children in the future.

While she claimed that ESD should not only be confined to the schools, she however, believed it is harder to bring it to the industrial sector. She bewailed that there are people in industry who are indifferent to what is happening to their environment because they are too preoccupied with their own business and marketing strategies. She pointed out that in factories that puff out smoke or other pollutants, most often, it is the people doing heavy manual work who are most affected, while the executives are safely cocooned in their plush offices. To Jenny, ESD could start in the schools and then carried over to the wider community. Jenny explained this point further: "This means that after environmental care has been thoroughly learned in the schools then, students can carry this over to their everyday lives. They will then know what to do to care for the environment."

Jenny held the view that in the universities, students are provided with an education that contributes to the improvement of their lives and those of future generations. In turn, she asked, "When they become professionals, what can they be expected to give to their fellowmen and the incoming generations?" In asking this question, Jenny was trying to explain that when students are taught knowledge, skills, attitudes and values, they will naturally pass these on to the next generation as they occupy positions as professionals exerting great influence on the young.

To clarify her assertion, Jenny claimed that in putting up a plaza or a factory that manufactures batteries for instance, it is also important to look into its impact on the environment. Although pollution in Cotabato City comes mainly from sewage and garbage unlike in places with heavy industry which are usually affected by industrial wastes, she pointed out that the environmental effects of factories should be considered of prime importance. While she believed that for a community to attain "progress or development" it should promote the growth of industry by putting up more factories, she also recognized that an environmental impact assessment is very necessary to determine whether this is beneficial to the people or not.

As we focused our conversation to the school setting, Jenny and I delved into other environmental concerns. Jenny reiterated her view that the case of the environment is everybody's responsibility, rich or poor, young or old. Jenny related several observations she made in her classroom which may not be seen as significant by other observers but when brought into a deeper realm of analysis, may reveal some insights into the relationship between environmental problems and the disparities in the socio-economic structure.

Jenny cited some taken-for-granted practices which she believed teachers need to be aware of. For instance, in the classroom, she observed that when she returns test papers to students, those with low scores tend to crumple them immediately and throw them anywhere even if there were garbage receptacles around. She argued that this attitude exhibited by students should not be left unnoticed because the small taken-for-granted things constitute the foundation of bigger things in similar contexts. In the first place, this attitude of indifference when unchecked is carried over to the homes and the other sectors of the community and possibly, their future workplaces. The student may have mastered all the concepts and principles in the different subject areas but the fact remains that this simple task has not been seriously considered nor is it incorporated into their value systems and lifestyles and therefore, has not come to be part of their lives .

Secondly, when seen from another angle, this seemingly trivial thing has deeper implications to the institution. Although janitors are hired by affluent schools to take care of the cleanliness and upkeep of buildings and surroundings, it does not provide an excuse for students to stay away from their responsibilities nor does it give them license to throw their garbage anywhere. Responsibility and cooperation become mere cliches and environmental care which calls for the involvement of the whole institution is left only to those who are paid to do clean-up jobs and to academics and students who have the interest or who happen to be in an area of specialization on the environment and related fields. This situation demonstrates how roles and expectations are continuously accommodated, reconstructed and maintained.

Jenny's emphasis on the "small" things brings into question what are generally considered important in our daily lives and specifically, on how we view environmental issues. It is often the big issues that easily draw our attention and which we tend to focus on and because of their enormity, we get overwhelmed. There is the inability to recognize that these big problems have been the result of small problems built over time because they have been ignored and considered devoid of any significance. By failing to respond contingently on seemingly insignificant habits or practices, teachers lose the opportunity to prevent bigger and more serious problems in the future. To Jenny, this is at the heart of ESD - an attention to the basic things in developing an awareness of environmental care.

Theme 2: *ESD in the context of engineering*

In our first conversation, Jenny informed me that she does not integrate environmental care in her other classes since they have Environmental Science as a required course in Engineering. However, she is of the view that the practice of environmental care can be infused in any subject area be it in Religious Studies or Mathematics since there are also opportunities to bring attention to the issue of the environment in these courses.

In each of the subjects she teaches, Jenny has a syllabus with a topic outline which she presents to the students at the beginning of the term to let them know the scope and coverage and to serve as a guide for them. Since Environmental Science is part of the Engineering curriculum, students are provided with a background knowledge about the environment. In addition, they discuss environmental care in relation to development issues. She recalls one activity where she divided the class into groups and they discussed environmental issues. They learned how to make environmental impact assessments and how to prepare and propose a budget for their project.

Jenny cited another example in the case of engineering projects: the construction of public washrooms. She pointed out that it is important to consider where they should be erected. The environmental impact must be a factor especially when looking at the realities of caring for and maintaining these facilities. She also encouraged the students to present problems being encountered by people in different communities like the water or sewerage systems. Jenny stressed that they need to learn to analyze the problems in terms of their impact on the environment and the process of development.

Theme 3: *Integrating ESD through a group sharing strategy*

Jenny described her "group sharing" strategy as a refreshing alternative to the reportorial method. In this strategy, she identifies a topic which the different groups can discuss and work on in terms of how to present their ideas to the other groups. They make their own presentations after which the other groups could present their reactions. While this strategy, according to her, is very effective, she still encounters a few problems. Although usually the students enjoy this activity, there are instances when it does not generate as much reaction as expected. Furthermore, she had noticed that students do not take criticisms openly and they often take it personally. The hesitation of other groups to react to a presentation often stems from their fear that when it is their turn to present, they might be given a barrage of criticism, too.

Jenny found such an attitude stunting the intellectual growth of students and thus, needs to be changed. Hence, there is a need to find ways to dispel students' fear to challenge that which they feel needs to be clarified and for those who are being challenged to make them realize that it is not a personal affront on them but a way to work out ideas for further reflection, analysis and refinement. In addition, Jenny thinks that the "group sharing" strategy helps the students to develop their critical thinking skills so they are better able to form sound decisions in solving environmental problems.

Since Jenny employs a "group sharing" strategy, aside from tests, she bases her evaluation on the student's participation, behavior and interest. The development of critical thinking, analytical and problem solving skills as well as the values of sharing and teamwork demonstrate that ESD is not only confined to information and concepts. In sharing our reflections and insights, we agreed that ESD is also a process. It also involves the development of relationships between individuals, groups and their environment. The group sharing strategy fulfills this process.

Theme 4: *ESD outside the classroom setting*

Jenny found her participation in the many seminars conducted by Dr. Toh Swee-Hin and Dr. Virginia Floresca-Cawagas, visiting professors from the University of Alberta, as very useful to her integration of ESD in the subjects she teaches. Although some of the faculty members and the staff were not able to attend them, she believed that they too, have their ideas of environmental care since it is also written about in newspapers and magazines and the subject of television and radio programs.

She observed however, that ESD is still a new concept for some teachers especially on the aspect of sustainability. She felt that a seminar on ESD would greatly enhance teachers' understanding of the concept. Jenny claimed that what motivated her to participate in the research project was her desire to learn more about ESD. I indicated to Jenny that that was the reason I decided to use conversation as my research strategy because it also provides for the sharing of ideas and knowledge.

We turned our discussion to our observations concerning the practice of ESD within the school campus. In the university, plastic cups and straws are widely used especially in the cafeteria. Jenny informed me that there had been plans to refrain from using plastic cups and straws because they are non-biodegradable but its implementation is yet to be initiated. With plastics being very convenient to use, it would really take some time for some people to be weaned from them.

Jenny however, had initiated activities with her students to promote environmental awareness and care. One project which the students were engaged in was the posting of proverbs on the environment on tree trunks. The college, in coordination with the different student organizations, also took part in cleaning the graffiti on classroom walls. Jenny pointed out that this was one way of making the students realize the difficulty of removing the writings on the wall. It was a good opportunity to instill environmental responsibility.

Jenny and her students also got involved with the cleaning of the city on World Clean-up Day. These activities aside from developing the students' awareness of the importance of environmental care also gave them the opportunity to bring to the wider community the need to cooperate in caring for the environment.

To be empowered to effectively teach ESD, Jenny believed that:

> *Inviting other agencies to give seminars or symposia, like the DENR can be helpful. The DENR is also interested in giving seminars to the faculty or students on the topic of environmental care. The department also has programs for the development of awareness and knowledge about the environment. With broader and deeper knowledge, you feel more stimulated to teach ESD.*

TERESA

For Teresa, the integration of education for sustainable development is very significant in her subject area since she teaches students who will soon go out into the community as teachers. She strongly adhered to the notion that these future teachers would have a greater influence on the lives of more people through education for sustainable development..

Teresa's focus on self-reliance in the family and in the community constituted the direction she has taken in her teaching of education for sustainable development. Her down-to-earth views of education are reflected in her practical but sensible approaches to the integration of ESD.

The following themes emerged in my conversations with Teresa:

1. ESD as the development of knowledge, skills and attitudes pertaining to the wise use of resources as well as an appreciation and valuing of the environment
2. The development of awareness of environmental issues
3. Developing self-reliance through the acquisition of livelihood skills
4. Promoting ESD as a collaborative and team effort

Theme 1: *ESD as the development of knowledge, skills, attitudes and values pertaining to the wise use of resources*

In my first conversation session with Teresa, she revealed her deep concern for the future of Mother Earth as she reflected on the decreasing number of trees as the cause of the unexpected rise in temperatures. She held a firm conviction that the wise use of resources is a most important aspect of ESD.

Teresa presented her observation that the community has many resources that it can tap. She cited as an example the numerous local plants that could be used as medicine. In her teaching, she and her students plan and carry out projects that make use of local resources. Describing her plans for a herbal garden, Teresa felt that there is a need to teach students how they could make use of their own resources for medicinal purposes. She commented that so much emphasis had been given to over-the-counter remedies that people think these are the only effective treatments to their ailments. She argued that if students realize there is wisdom too, in grandmother's alternative medicine which basically comes from a concoction of herbs and organic sources, there would not be so much dependency on the pharmaceutically manufactured pills and capsules. In Teresa's view, when people recognize the significance of their resources such as their herbs and trees, they will learn to use them properly and they will naturally appreciate and value them. This could lead to environmental protection and conservation. Naturally, issues that bring about the linkages between health, the economic situation and the environment would be discussed in the process. Thus, Teresa asserted that ESD should be geared towards "educating students about the proper and wise use of resources." Since she brought forward sustainable development concepts through projects, it was very evident that the experiential or the "learning by doing" mode is Teresa's vehicle for the integration of ESD.

Having been greatly involved in the development projects in her own community, Teresa also enthusiastically described their "Neem Tree Boulevard." She related that the trees certainly reduce the air pollution and make the place cooler. She also added that the leaves of the neem trees drive away insects like mosquitoes. When I suggested that they could be manufactured into commercial insect repellants, Teresa quickly pointed out that they be left as they are - indigenous! I recalled that in the last conversation we had, we talked about companies doing some research on the medicinal properties of some local plants. Teresa not only advocated for the development of the people's own technology but to be on the lookout for problems that might be generated by the process of manufacturing. In bringing up the case of their "Neem Tree Boulevard" where she and her husband as a barangay captain had initiated the planting of neem trees, Teresa wanted to convey that ESD is not confined only within the classroom walls. The proper and wise use of resources is both a school and community endeavor.

In line with the school-community effort, she mentioned one of the projects of the College of Education in their institution. In coordination with the Nonformal Education (NFE) office, their students go to the barangays to teach literacy to children from four to six years of age in the depressed areas. According to Teresa, they do not only teach reading, writing and arithmetic. Values formation is also important hence, there is an infusion of environmental values in the program.. While these children are in their formative years and start acquiring literacy skills, they begin to learn also about their environment. They learn values like cleanliness and caring for the trees around them and the wise use of their resources.

Theme 2: *The development of awareness of environmental issues*

One of the strategies which Teresa employs in her integration of ESD in the subjects she teaches is making use of newspaper or magazine clippings that deals with environmental issues. In this strategy, she not only develops an awareness of these issues but also the ability to solve them.

> *One of the ways which I found very helpful is to select an article from the newspapers, read it and discuss it in class. Yesterday, I found one and since I am aware of these issues, I clipped it and discussed it with the students. It was on the role of the youth in sustaining our life on earth. It mentioned several projects which the youth could undertake. There were also articles concerning Fisheries, Agriculture and others. We can make students aware of these issues especially when we talk about sustainability.*

Teresa claimed that by reading more on these issues, she becomes more informed so she can discuss these more deeply and critically with her students. The development of awareness is vital because if students are not informed about what is happening around them, they will tend to think that there are no problems that need to be addressed. By presenting several environmental issues in class, students also develop their critical and analytical thinking skills. This is a departure from traditional teaching strategies, notably the banking type where students are merely fed environmental facts or information. When they are confronted with certain problems, students are usually at a loss on how to solve them.

It was with a sense of pride that Teresa informed me how her students reacted to various SD issues which I presented when they invited me to serve as a resource person in one of her classes. Although the time was limited, I did notice the interest that the discussion generated. It was inspiring to share ideas openly with students who could readily link their experiences in their attempt to unearth the root causes of people's poverty and marginalization.

Teresa claimed that by presenting several sustainable development issues for discussion in class, students come to realize that these issues are interrelated. One problem could arise as a consequence of a smaller problem. Likewise, she observed that the use of news clippings was more appealing to the students because the problems are real. Hence, the students come to recognize the relevance of these issues when they see them as affecting their own lives.

Theme 3: *Developing self-reliance through the acquisition of livelihood skills*

While we were seriously engaged in a discussion about environmental issues, the topic of social justice inevitably surfaced. The need for an equitable distribution of wealth or resources became the springboard for bringing about the idea of change in habits, practices and lifestyles. Teresa indicated that most of her students practise simplicity in matters of lifestyles implying that this dimension is not much of a problem for her students. Underscoring the development of self-reliance, she argued that ESD should also look into how to sustain livelihood for the family so that every household is able to maintain itself while still providing for future generations. Since we rely so much on the environment for our needs, students should learn how to use the resources wisely and how to care for the environment so that the resources are not depleted and the future generations are not deprived of the chance to meet their needs.

Teresa showed me one of the books she is using in her Practical Arts and Livelihood Education class. Entitled "Pangkabuhayan" (Livelihood), it contains many home projects centered around the development of skills to foster productivity in the family in order to enhance the quality of life. These projects include duck raising, making fishponds, vegetable gardening for home consumption and planting herbs for medicinal purposes. They illustrate the concept of SD at the micro level as these projects enhance the wise use of resources in order to improve the quality of family and community life. Thus, alongside the skill of making fishponds for example, would be the development of values such as sparing the small fish or using compost to enrich the soil in backyard gardens. I commented that these may be regarded as little things but they put forward many possibilities in terms of achieving SD at the level of the home or family. Teresa asserted that ESD should be geared towards the development of self-reliance in the home. She elaborated on this point as we talked about her strategies in the teaching of ESD.

> *By the way, we also do practicum. In the case of the special group we have, like in gardening we have project FAITH (Food Always in the Home), the students learn these sustainable ways of gardening which they replicate in the community. So it's their practicum. They see the value of doing these things, growing vegetables in a sustainable way. It would be good if everybody in the community would think of doing this... especially in these very hard times. This could help sustain life and this learning could be passed on to future generations.*

Teresa's emphasis on self-sufficiency opened up many possibilities for the attainment of SD. The projects she mentioned are possible ways to address the problem of poverty..

Theme 4: *Promoting ESD as a collaborative and team effort*

In enumerating her strategies in integrating ESD, aside from her use of newspaper clippings and doing simple projects, Teresa mentioned small group discussions, web charting, role playing and inviting resource persons. These strategies involve wider student participation so the students become highly motivated. Most of these activities require that they work in groups or teams. Teresa claimed that the students enjoy doing these activities very much that at times they get so excited that the noise level turns high. Although this situation might have created a bit of disturbance for the adjacent rooms, Teresa assumed that her colleagues understood what was going on adding that "it lasts only for a few minutes after which the excitement dies down." What she found remarkable in these strategies was the spirit of collaboration that was being developed. The students worked together in their projects or in small group discussions and it was very interesting that they have learned to relate with one another very well.

Teresa also believed that the administration has been very supportive of the integration of ESD. She asserted that SD is an issue which is very relevant because it has been a term that is being talked about in government and business circles. To her, this support augurs well for the successful implementation of the integration of ESD, for then it becomes easier to achieve the goals if everybody is working for the same goals.

Because she considered their campus to be one of the most beautiful in the country, Teresa believed that exposure to this kind of environment helps in developing in their students an appreciation for the things around them. However, she expressed disappointment that some students do not seem to appreciate their school environment as there were graffiti on the walls of buildings and sometimes, plastic cups and pieces of paper are thrown anywhere. She also deplored the attitudes of some students who harbored the belief that because there are janitors to clean the place, they have the license to throw their garbage anywhere. Because of this, Teresa felt that there was a need to re-emphasize the teaching of environmental values. She was convinced that a project or program can only be successfully implemented through a united effort of all members in the school campus.

To be empowered to promote ESD, Teresa asserted that she needed the support of her dean. Likewise, by revising their syllabi, she and her colleagues could infuse more ESD concepts and values in the subject areas they teach. For Teresa, the promotion of ESD should be a collective endeavor.

ARLENE

In our discussion of the concept of SD, Arlene contended that although the country has "developed in a way," it also suffers from the consequences of development. This brought into our questioning what “development’ really means.

In our second and third conversations we mainly focused on ESD especially on how this could be integrated in the different subject areas. Arlene’s emphasis on the development of attitudes and values arises from her daily observations and experiences especially in dealing with the garbage problem in the city where she resides.

From the 23 topics that emerged in our conversations, I have identified 3 themes:

1 Forming the right attitudes and proper values in ESD

2. The incidental teaching of ESD in Filipino and Guidance

3. Bringing ESD into the classroom

Theme 1: *Forming the right attitudes and proper values in ESD*

I started my second conversation with Arlene by pointing out the various kinds of "education" that have been implemented in the schools. These include Population Education, Environmental Education, Values Education and Peace Education, each of which occupied at some point in time, a central location in the curricular grid. Arlene added with a dash of humor, "education for all " and "quality education."

The centering of a certain subject in the curricular structure emerges at a certain point in time as a response to a popular need. Programs are designed to meet these needs and as with the usual run of things, they become bywords or catch phrases attractively packaged by the mass media and adopted by other sectors in their slogans and/or advertising until they become part of the layperson's vocabulary. However, this does not guarantee a full understanding of the term or concept. Arlene agreed that SD is the current "magic phrase" because "it seems to be mentioned everywhere... and in the newspapers, we read about it." For this very reason, according to her, ESD holds significance "in a growing country in order to cope with the growing times."

This emphasis on SD, in Arlene's observations is very evident in the government's efforts especially through the Department of Environment and Natural Resources (DENR), to educate everybody on sustainable development issues. She cited the symposium conducted by the department for the high school students on environmental awareness.

> *Their topics were very relevant like clean air and quality water. They developed the awareness, knowledge, skills, attitudes and values which are very important human aspects. Knowledge on what is going on in our environment. Attitudes... because even if you have the knowledge, if you do not have the right attitude, you will not be able to form the right value just like in solving the problem of garbage.*

Arlene was convinced that most people are aware or do have a knowledge of environmental care especially in the cities because the newspapers usually carry items on SD issues. She reiterated her view that ESD involves the development of the right attitude and forming the proper values, because to her, a program, no matter how good, will not succeed if people do not have the right attitude and values. As she had stressed in our previous conversation, SD is not a new concept since it had been referred to before by a different label. She agreed however, that there has been a shift in focus from environmental care alone to its linkage with development issues. She was saddened however, by newspaper reports of the worsening environmental situation.

Concerned with the garbage and pollution problems, Arlene expressed her disappointment over those who do not seem to have a sense of personal discipline. She indicated that this is where ESD finds relevance. There is a need to transform people's attitudes and values so there will be a corresponding change in behavior. She asked, "How can we attain SD when even the simple task of disposing our garbage properly can not be followed?"

With her legal background, Arlene invoked respect for human rights in her everyday battle with the garbage issue. Expressing her frustration over this problem which she traced to as far back as since she set foot in Cotabato, she claimed that Sec.16, Art.II of the Philippine Constitution providing for the right of every citizen to a balanced and healthful ecology, is nothing but a farce.

The idea of a recycling program which may help ease the garbage situation came up in our conversation. Recycling could be highlighted as one area in ESD inasmuch as the other 2 R's in the 3 R's, "reduce" and "reuse" are already being practised by most people in the Third World. A recycling program could be initiated in the schools and can be eventually followed up in the larger community. At this point, Arlene related her experience visiting Dole Philippines and its recycling project in its pineapple canning operations. She related her experience thus:

> *One time we went to Dole and we viewed their canning operations. The company has really advanced in its recycling program. We saw that everything is recycled. Even the eye-like notches and the thick skin of the pineapple are used. That's why Dole has no waste.*

Arlene underscored the development of attitudes and values in caring for the environment. This could be related to ways of addressing the garbage problem which Arlene is so concerned about. Thus, programs in recycling and zero waste management could bring forth a change in people's attitudes and behavior.

With the growing interest on the environment, it has become a common practice for some business corporations to assume an environmentally-friendly posture in their marketing claims. Likewise, some well known business figures have affiliated themselves with NGOs and have chosen the environment for their charitable causes as exemplified by CEOs serving as chairpersons in fund-raising events. Although TNCs have been known to ignore environmental safety requirements, it is worthwhile to take cognizance of those that have pioneered technological breakthroughs in protecting the environment.

As we prepared to end our second conversation, Arlene's enthusiasm was further reflected in her assertion that ESD is very important and should be made a part of the curriculum

Theme 2: *The incidental teaching of ESD in Filipino and Guidance*

Since Arlene teaches many different courses (subjects) like Filipino and Guidance, we shifted our conversation as to how she infuses environmental concepts and issues in these courses. I recalled that at some point in our past conversations, she mentioned about a strategy she used in teaching Communication Arts (Filipino). She explained that when students go on a field trip, she utilizes the students' experiences to serve not only as a springboard for teaching Language but as the lesson itself. The trip would then be the topic for discussion so that if their lesson is on "description", they describe the place and the things they saw on the trip. It is at this point where Arlene finds the possibility of infusing environmental care in the lesson. From the activity of description, the students develop an appreciation for nature and the things around them.

Arlene clarified that the inclusion of environmental care and issues in her classes is actually incidental. In Filipino Literature, she uses creative writing as a vehicle to express appreciation for the environment. She demonstrates how to write poems by showing examples. The students usually write about the environment and the things around them. This is where environmental values are infused in her lessons.

Arlene claimed that the coverage of Filipino (Communication Arts) is focused on grammar. In Literature, they discuss the various literary forms so the inclusion of ESD is only incidental. She mentioned the assignment she gave to her students which was to make a write-up of the lives of heroes and presidents of the country with accompanying pictures. ESD concepts could be drawn from the programs of development of the different presidents like the programs in agriculture to improve the living conditions of the farmers and other related themes.

In her other subjects like Guidance, Arlene underscored the development of a set of values and a sense of responsibility. She discusses with them their goals and their future. In this respect, the students are guided by a set of values in their personal lives and in the pursuit of their studies. The sense of responsibility is aptly enhanced through the activities they engage in that promote ESD. Arlene explains:

> *You will see there at the entrance of the office that one of the activities is the implementation of the "clean and green " program. So that is one way of promoting sustainable development education. We are educating our students how to be clean in their surroundings, how to maintain it and how to plant. We also have the Tree Planting Program. Then, one time, I required the students to come to the office to bring these pots, some herbal, medicinal plants and "vegetables in a pot" for self-sufficiency. It's not that we want them here in our office but that is one way of making them aware that it's not only in the hectares of land that they can plant but also they can plant these kinds of vegetables and these medicinal, herbal plants in pots.*

In describing their activities, Arlene bewailed that while they have tried to keep the vicinity of their office clean, they found it hard to maintain it because so many students who go in and out of the office do not observe cleanliness. So, to be able to effectively and creatively implement ESD, Arlene emphatically stated that empowerment comes with the cooperation of the students because without their cooperation and support, "it will be very difficult to accomplish anything."

Theme 3: *Bringing ESD into the classroom*

As I briefly reflected on how Arlene integrated ESD in her classes, I thought of extending our discussion further to how the issues of the environment could be linked with the problems of development. Arlene indicated that in teaching a poem on trees, stressing their usefulness would lead to a valuing and appreciation for trees. This becomes the groundwork for the need to take care of trees. From this topic, the issue of forest denudation and its effect on our lives was brought forth into the conversation. She readily connected it with the tragic floods which happened in Ormoc (a city in Central Philippines) in 1991. She formulated several questions for discussion. What happened to the forests? Why are they denuded? Why did we have those floods? Arlene then realized that these are interesting topics to discuss and write about.

In her recollection of how the discussion of the Ormoc floods was conducted in her class, Arlene revealed, with a bit of regret that it called only for the students' opinions. She realized how ESD makes students delve deeper into environmental issues. She thinks it would be good if ESD is taught as a subject and not only integrated since it is very relevant especially for the programs in agriculture, forestry and fisheries. Arlene presented the problem of preparing the course content. She believed that implementing ESD would be difficult if the preparation was not adequate. We discussed the idea of developing the course content by looking into the issues of sustainability in the community. Arlene was convinced that with its reflection of local concerns, the course will generate greater appeal to students who could discover its relevance from the opportunities and experiences it offers for their preparation and participation in projects concerned with the solution of environmental problems confronting their own communities.

In conclusion, Arlene expressed the view that for the successful implementation of ESD, teachers need to be trained or to attend seminar-workshops to broaden their perspectives on SD issues.

TINA

In my second and third conversations with Tina, I found her candid assertions about certain educational practices and issues very interesting and thought-provoking. As we clarified our views on certain issues, there were points where our ideas seemed to navigate different routes but we always arrived at the same destination. Tina has a very rich background in pedagogical and evaluative strategies and her insights on the education-development dilemma are deep and reflective of a broad knowledge base and critical analysis.

I identified the following themes from my conversations with Tina on the concept of ESD:

1. The educational system and ESD
2. Participatory: A Pedagogical Approach to ESD
3. Research and evaluation in ESD
4. Potential problems in the teaching of ESD

Theme 1: *The educational system and ESD*

After presenting to Tina the themes that I have identified from our first conversation, I immediately brought forward the concept of education for sustainable development. Tina expressed her views thus:

> *I would say that ESD is actually teaching or educating the people or learners in a way that they will be contributory to development that is not detrimental to the environment, to our ecological systems., I don't know but it seems, I think that in the Philippines we are not treading in this direction.*

When I probed further why she thinks that the country is not headed towards the direction of SD, she claimed that students do not understand what their role is in SD. She assumed it is the role of education to make them understand but she found that "it seems that in the Philippines, we are still in the baseline, we are still at the bottom." She asserted however, that "education per se is good."

> *What makes education bad maybe are the people involved in the implementation of the system...of any changes. That is the point. We look at education as good if we look at the objectives but when politicians poke their fingers at education, it changes everything.*

Tina asserted that although there are many defects in the system, it is no reason to gauge that education has failed. It is the people in the system which make education look bad. In spite of the system's glaring defects, Tina's optimism continues to radiate as she pins her hopes for transformation on education.

We presented our ideas on several issues like testing and streaming which I have identified as examples of the processes and structures that need to be problematized. Then, we both brought into questioning several educational practices like college entrance examinations and the manner of implementing educational thrusts that have become standard fare but need to be challenged. Our reflections on these issues opened up more avenues to explore how to situate ESD in the present context.

Theme 2: *Participatory: A pedagogical approach to ESD*

Tina informed me that she has not integrated ESD in her subject area so with the information that the addition of another 3-unit course in Environmental Science is being studied, I asked how she would propose the teaching of ESD. Tina responded that ESD could be included as one subject in the curricular offerings of programs in education like the Bachelor of Science in Industrial Education (BRIE) degree program which is offered in their college. This would provide would-be teachers sufficient preparation and background in teaching environmental education in the elementary, or high school levels. In the Social Sciences and Humanities, Tina concurred with other participants that the course offerings offer many opportunities for the integration of ESD.

In terms of strategies, Tina presented her load of effective approaches from her 22 years of teaching experience. She described these strategies thus:

> *Well... surely participatory, experiential, community-based. It should not only be confined to the classroom. It should also be intertwined with other disciplines. If they do not see the relationship of sustainable development with other areas or other disciplines, they won't see the whole concept and its relevance to a certain context. They will only think of it as a subject per se. They wont see the value system through various perspectives. They will see development as we see it in our respective subject areas.*

Tina related her experiences as a teacher at the Laboratory High School on her use of participatory strategies. She described it as "letting the students participate in the whole process... and the teacher serves as the facilitator." She believed that her co-teachers who teased her for having the patience and tenacity to go through what usually happens in her classroom did not know that this entailed a lot of nerve-wracking preparation. Furthermore, as students talked and discussed, sometimes they get emotionally carried away especially because some of them can not accept criticisms. To Tina, this is just a normal scenario. She responded to her colleagues by taking pride in her experience firmly asserting that when teachers spoonfeed their students, what usually happens is that "when students leave the classroom, they do not even remember what they have talked about."

Tina claimed that the students' communication skills are developed in the process because the students are allowed to talk. She chided her co-teachers for their practice of cutting students off immediately when they find them groping for the right words and struggling to express themselves. Because English is used as the medium of instruction in the schools which is a second language for the students, some of them would find it difficult to express themselves. Teachers whose impatience creates a kind of fear and anxiety among students who do not feel confident and competent enough to use the language often aggravate such a situation. Yet it is only through practice that students could acquire proficiency in the language. It is ironic therefore to find teachers complaining about their students' inability to express themselves.

Based on her experiences, Tina pointed out that a participatory approach would also constitute sound ESD pedagogy for it demands the involvement and participation of the students in the process which brings about better learning outcomes. In a related light, she believed that if ESD is directed towards the development of environmental responsibility, then students need to learn how to participate in a collaborative process such as in putting up environmental projects as solutions to ecological problems. Sustainability can only be achieved when everybody is involved and works cooperatively towards a goal. It must be recognized that the issue of the environment ignores borders because all things, living and non-living are interrelated. The solutions to environmental problems for Tina, need to be a cooperative process and ESD may respond best to this need by using a participatory pedagogy.

Theme 3. *Research and evaluation in ESD*

As Tina described some of her teaching strategies, her vision of how ESD should be taught in their institution became much clearer. In terms of research, Tina recommended some very interesting topics.

> *Research? Maybe we could start with the concept like 'What is sustainable development?' ....possible effects.... what good will it do for education and to the country as a whole. Then perhaps as we go through the process, maybe we can also evaluate the effectiveness of our instructional materials...then, perhaps values. We check the impact of teaching ESD on our values. Then maybe we can also make studies on the community. We focus on the community, like their sustainable development practices.*

Tina's suggestions reflected her commitment to ensuring that the implementation of ESD has been given careful thought and preparation and that there was a continuous search for ways to achieve the desired goal. Her inclusion of studies involving the community is indicative of her views about the relationship between the school and the community

To assess what has been learned, Tina claimed that the choice of an appropriate evaluative technique is determined largely by what one would like to measure whether it be on values, skills or knowledge.

> *Evaluation? Testing should be constructed in such a way that it elicits the values that have been learned. For example, the strategy is experiential like going on field trips and in the classroom, there's the consolidation and refining of what the students have observed and experienced in that particular event. We give questions but not the objective type. Rather, it's more of values clarification. Another way is evaluation in the form of composition writing where they can have the freedom to express what they think. Another is impromptu drawing like poster making or collage making.*

Tina's insights into how evaluation should take place in ESD are reflective of her years of experience in teaching Communication Arts. She sounded uncertain however, whether these would work just as well in ESD. Tina's assertion that evaluation should be "more of values clarification" rather than giving objective type examinations echoes the emphasis on the development of values in ESD. Tina had varied ideas about evaluation techniques which matched the variety of teaching strategies she proposed. The other forms of evaluation which she suggested like composition writing and impromptu drawing or collage making, could work very well for ESD because these would enable the teacher to find out how students understood the concepts through their own words or through artistic expression. Students' understanding could be manifested better in ways that are less structured and allow for greater freedom of expression

Theme 4: *Potential problems in integrating ESD*

Tina foresaw problems or constraints in the teaching of ESD. The primary concern for her, was the resistance to change.

> *Right now, the problem is the resistance to change. Our students are not used to actively participating in school activities, and I do not see also the faculty as the initiators of this kind of strategy employed in the teaching of ESD, I could see resistance from the teachers themselves. The teachers will find it so taxing. But if they see themselves as facilitators, not superiors, then it would not be taxing. Students may also find it like it's brain wracking because they will also be forced to do the task among themselves.*

In Tina's view, the resistance to change does not only come from the teachers but from the students as well. She thinks that the use of participatory strategies which she had described and decided as most effective and appropriate for ESD would bring about the greatest resistance because when employed, they demand so much in terms of teachers' time and energy for preparation. This is exacerbated by what Tina claimed as their perception of their role as superiors which they presumed, would require them to be more adequate and advanced than others in terms of knowledge and information.

In any radical change, a kind of opposition and negativism often arises as a result of the uncertainty and the anxiety that emerge from exploring unfamiliar terrain. In the case of students, passivity among them is often due to learning experiences reflecting educational practices that discourage them to interrogate or challenge certain issues and at the same time, demand in them unquestioning obedience and compliance. It has been the traditional norm to consider those who accept the teachers' views without question or who echo the teachers' ideas as the "good students" and those who challenge them as the "problem students".

Similarly, the hesitation of teachers to initiate innovations could also be rooted in how they are often regarded by their administrators and colleagues. They are often branded as the radical elements in the system who disturb the placid everyday flow of events. In short, teachers who boldly attempt to do things differently like Tina, are considered "rebels". Tina has alluded to this when she related her experiences trying new techniques in her class.

> *I tell my colleagues, "You should create a revolution in your English classes". But when I say revolution, it is the good revolution. What I am trying to say is you do not have to follow strictly your syllabus. Do what you think is best for your students. Ask your students to do a collage and let them explain it. You can make the lessons more interesting by introducing new things. In fact they can learn the concept in various ways. Do not just stick to what is suggested in the syllabus. That's why they think that I am a rebel.*

As a member of the Academic Council, the policy-making body of their institution, Tina believed that if given the opportunity to be part of a committee on curriculum development or faculty development, she would be empowered to promote ESD and to bring about some changes. Although by being confined only to the classroom and the chances for being an effective change agent may seem slim, Tina still found alternative routes. She claimed that if she has five classes with 40 students in each class then she has at least 200 students per semester with whom she can work with in instituting educational change. This could be just a negligible contribution for others but if the principle of multiplication operates as hoped for by Tina, then what has been started as a small undertaking can turn out to be a great accomplishment.

Some good educational projects could easily turn out into fiascos if they are not fully explored by the implementors themselves. Tina is of the opinion that the problem often lies in the fact that educators have not really undergone and delved thoroughly into a visioning process. She asks, "What do we want to be and what do we want to do? Here, in school it's like we can not take off. We run and run but we can't soar. We remain steady on the runway." From Tina's metaphor, one draws the idea that there is a need for everybody who is involved in a project to fully understand the rationale behind it and to be adequately prepared for the tasks.

Related to the need for adequate preparation are the other problems mentioned by Tina. She cited the lack of materials in the discipline, the need for teachers to be updated in the area and seeking the support of the administration. The problem of materials is underscored by Tina who thinks the library resources are very limited. In our discussion however of materials that can be used in teaching, she had voiced the opinion that by being resourceful, teachers can always find materials that are useful in their classes. She suggested the use of newspapers where students can read the current issues which they should be acquainted with since they will be playing active roles in society in the near future.

Like the other research participants, Tina was concerned about their inadequate knowledge and experiential background in the teaching of ESD. She explained, "To be effective teachers of ESD, teachers should be oriented first to this area. We should be taught or we should be allowed to experience in ourselves what it is to be teaching ESD."

Tina pointed out that before implementing a program of ESD, teachers and perhaps, administrators should undergo training in this area or they could participate in seminars or workshops on ESD for their professional growth. They can also organize groups where they can share ideas and new information regarding ESD. In this regard, the significance of administrative support can not be ignored. Tina's optimism dimmed a little bit at this point. From her experience, the bureaucratic structure remains to be a powerful force to be overcome, though she remained optimistic.

> *Yes,, we have observed that kind of organizational culture. But,, if we give in to them all the way, who will be jeopardized? The students....and if the students are jeopardized, then, the whole community and with the community, then, the whole country. So in this situation, you feel discouraged.*

Tina's bold assertions may yet find their way into seeking reforms that are badly needed in the prevailing structure.

BERNIE

My conversation with Bernie on the subject of ESD focused mainly on how it could be integrated in the different subject areas. According to Bernie, sustainable development is a new concept hence, it is not yet very familiar to them in their department. Although he made the connection between sustainability and the environment, he also wanted to know the other dimensions of SD. In our discussion of the content of the subjects he teaches, we tried to explore the possibility of infusing ESD themes or concepts. Like the other participants, Bernie expressed his desire to attend a seminar-workshop in this area so that he can be fully empowered to teach ESD.

The following themes emerged from my conversation with Bernie:

1. Exploring possibilities in integrating ESD in Engineering and Technology
2. Making ESD more enjoyable and meaningful
3. Empowerment through training

Theme 1: *Exploring possibilities of integrating ESD in Engineering and Technology*

In the latter part of my second conversation with Bernie, I shifted the subject from sustainable development to education. I pointed to the mission of the college as presented in a lecture handout material given to me by the VP for Academic Affairs (1996):

> *...for the development of potentials of individuals as God-fearing, literate and enlightened citizens and leaders who are creative, proactive, responsible, economically self-reliant, productive, service-oriented, technically skilled in agro-industrial, vocational and technical competence and ecology-oriented user, conserver and preserver.*

I cited the idea of ecological care as being embedded in the mission so I asked Bernie how this is translated in the subjects he teaches. Bernie informed me that in the School of Engineering and Technology, they offer courses such as BSIT (Bachelor of Science in Industrial Technology) and Civil Engineering. In the BSIT program, they have two major fields: civil technology and electrical technology. In these fields, students are given adequate technological preparation so that upon finishing their programs they can seek employment and be able to earn a living. Bernie noted that they have not done as much for the environment such as the forests in terms of tree planting activities by the students. Since he implied that the opportunities to get involved with SD issues are limited in their field, I inquired about the materials they use and what they do with the wastes in construction.

> *In construction, especially in building construction, we usually use lumber in most residential buildings. We are teaching our students that materials that have been used can still be used in other constructions. They can store them in a place where they can be kept from getting soaked in the rain. But in some construction...but of course, there will still be wastes...however there are buildings here in the city that make use of prefabricated materials that do not need so many forms... they only need to be assembled and some electrical work.*

When the subject of materials for construction like lumber is taken up in class, this could eventually lead to a discussion about the protection and conservation of our forests. Bernie remarked that they did not have much opportunity to focus on the environment except in the aspect of taking care of waste materials for future use.

Bernie recalled that at one time, when they were on this unit on electricity and magnetism in Physics 2, he had the chance to discuss the Mt.. Apo Geothermal Plant project because it is related to the use of electric power. The discussion included the "whys" and "hows" of the conservation of energy. However, unlike other participants, Bernie did not see this case as a relevant opportunity to bring in key issues of environmental destruction and related dilemmas of development and "progress."

Our conversation brought forth topics regarding their Civil Engineering program and Bernie informed me that they have engineering subjects like Engineering Geology which is about soils and Hydraulics, which pertains to water and focuses mainly on dams. It is clear that there are possible entry points in these areas and Bernie came to the realization that he must have had the chance to integrate ESD but was not aware of it because of the unfamiliarity of the term. However, they discussed conservation of water while they talked about dams and the use of water according to necessity. I pointed out that there had been cases where the construction of dams had been the subject of controversy among the people affected by the construction and those who initiate and implement the project. The flooding caused by some dams have led people to protest and demonstrate against their construction in their areas. This is also triggered by the reality of communities being displaced in the process.

In Bernie's opinion, dams are constructed to help people bring water to their farms that need it. If properly constructed, it will not cause floods. He explained that the purpose of the dam is to raise the level of the water in the upstream so that the water could be diverted to the areas where it is needed. There are problems however that could arise as a result of the construction of dams and perhaps with other development projects that may originally be thought of as beneficial to the people. The displacement of communities and the possibility of undermining cultural traditions of affected ethnic groups as well as the violation of human rights are important considerations often overlooked and overshadowed by the supposed economic benefits that the project would bring. Sometimes, it entails the intervention of military forces which more often than not makes it very much more complicated with the peace and order situation being disrupted. There is also an ecological dimension which should be first and foremost considered. Would this cause the destruction of resources or the environment? Then, in the process of putting up the project, there are far-reaching decisions that need to be made that would put people's values to the test. In not very few cases, big projects have failed because of defective construction which could be traced to the profit motivations of unscrupulous individuals involved in the process. As these issues involve people's sense of values, crucial decisions will lie in the hands of these students who will become engineers in the near future. Since the importance of values in the attainment of sustainable development has been underscored in our conversations, Bernie and I agreed that ESD could provide the much-needed knowledge and information, skills and attitudes that would help them come up with the right decisions.

Reflecting on the issues, Bernie deplored the corrupt practices that often mar construction projects where project specifications are not followed.. The awarding of contracts is the starting point of this vicious cycle of corruption. Bernie confided that this is the reason why he never considered becoming a contractor. There was just too much pressure in a contractor's world that unscrupulous practices have become almost inevitable routines and standard procedures. He claimed he is much happier in teaching as he can share with his students his experiences and what he has learned in the university. Although he is not a contractor, he can share his experience in the field of construction as at one time he was hired to supervise one project to see to it that the construction was being done according to the plan and specification of the design.

To Bernie, the danger of compromising one's values or the temptation of being coopted is very much a reality in the field of building and infrastructure construction.

Theme 2: *Making ESD more enjoyable and meaningful*

In the earlier part of our third conversation, Bernie felt that he may have had infused environmental issues in his teaching but may have not been aware of it. Because of this, I asked him to share his experiences in teaching which he must have employed in his attempts to include SD issues, although he had assumed how slim the chances had been. His techniques, although not specifically focused on ESD could however, provide insights as to how the teaching of ESD could be made more interesting and enjoyable.

Being an engineer, Bernie claimed he has a limited background in terms of pedagogical principles and strategies. The techniques he employed were what he had observed from his professors and those that he had been using and have found to be effective based on his day to day experiences.

Bernie's strategy is the usual lecture type in which he presents the topic, gives his lecture and then facilitates the discussion with the students participating. Then, the principles are applied in the problem solving phase. This may be considered just an ordinary way of lecturing but in his 10 years of teaching, Bernie has adopted some techniques to make his students learn faster and retain better.

In his years of experience as a teacher, Bernie found out that the development of a good teacher-student relationship is the key to successful teaching. He has also come to realize that teaching goes beyond the confines of subject matter. It is touching the lives of these students so that their potential can unfold and they can confront their everyday realities with courage and confidence. As students gain confidence, they become more motivated to learn and this helps them to work and learn independently. Bernie's lecture method may seem to look like mere spoonfeeding but for him, this is not the case. He insisted that he gives them assignments to work on their own and they could go and refer to him anything which was beyond their understanding.

These techniques, for Bernie, could also work in the teaching of ESD since it is about solving environmental problems and issues in relation to the content of their subject areas such as the construction of dams. The issues could be presented to the class through lectures and then students could participate in the discussion. The assignments could be focused on problem solving which may not only involve mathematical equations but also making decisions based on a critical analysis of given situations.

Theme 3: *Empowerment through training*

In our discussion of strategies, Bernie presented some possible problems in integrating ESD in their subject areas.

> *For me, the background knowledge and how to integrate these concepts to our subject matter is one of my concerns. With ESD, the problem is how to infuse and make the issues and concepts part of our lesson. And I think that this will be the problem that most of the faculty will encounter.*

In this regard, Bernie suggested that a seminar or training could be conducted to help them learn how to integrate ESD topics in their subject matter such as in their units on electricity or thermal power. Likewise, he believed that the integration of ESD would be very beneficial to the students in their institution. He explained that most of their students are not from the city but from the nearby municipalities. Coming from poor families, they take advantage of the lower tuition fees in their institution since it is a state college. The rich have the opportunity to go to the private institutions where they have better learning facilities and therefore, have greater chances to be abreast of current trends. This observation led Bernie to think that it is really worthwhile to integrate ESD in their college so that "the poor would also be given the opportunity to think of how development could be made sustainable so they will know why and how to preserve our resources and contribute for the future of this country."

Bernie's observations about the disparities in terms of educational opportunities for the poor and the rich, and those coming from the rural and the urban areas have shifted our attention to the situations in the barangays or villages. An oft-repeated comment regarding the barangay high schools is that they have lagged behind because they are usually neglected in terms of resource and funding allocations. Likewise in national examinations, the tests are constructed to cater to the city residents and that the school authorities concerned seem to forget that there are knowledge emanating from the barangays that could be as important and legitimate as those from the cities. To this, Bernie illustrated through a sample situation how these disparities are created. He explained that in the educational structure, there are designated pilot schools which receive bigger funds than the rest of the schools. So, these are the ones that would have better and more facilities and materials and could initiate activities that foster students' intellectual growth. When Central Office personnel visit and inspect these schools, they would get the impression that the schools in the area are doing very well and that there are only a few problems. They do not come to know about the situation in the schools in the far-flung areas. Such structures in the system therefore, need to be critically analyzed if improvements in education need to take place. Bernie thinks that teachers need to be empowered to be able to do so.

To be able to effectively implement ESD in their subject areas, Bernie strongly argued for more training in this area.

> *So I will be empowered, I need to know more about sustainable development because if you have an adequate knowledge of what this is all about you can integrate it in all aspects of the subjects you are teaching. So as of this time, the very thing that is needed by the faculty in our department including myself is a seminar or training on sustainable development. This will empower us to be able to integrate it effectively.*

SARAH

Sarah had been one of the busiest among the research participants because she has a combination of administrative work and teaching duties. Nevertheless, she took time to have a second and third conversation with me although we could not spend as much time as we had planned. In spite of this however, we had a very interesting discussion about her strategies in integrating ESD in her subject area. She also presented some practical ways of promoting education for sustainable development within the school campus. Of the various topics that we talked about, the following themes have been identified.

1. Exposure and the development of values and appreciation for our natural resources
2. Some practical ESD activities
3. ESD training for students and faculty

Theme 1: *Exposure and the development of values and appreciation for our natural resources*

In my second meeting with Sarah, I initiated our conversation by informing her that I had the chance to visit Kappia, their laboratory site and that I came upon some students tending to their corn plants. Sarah then, had just been back from a field trip with her students to the experimental farms in Bukidnon.

One of the strategies which Sarah employed in her teaching was exposing the students to the different farms, experimental stations and research centers. She felt this was also an opportunity for them to see and appreciate their country's natural resources. Sarah described their trip:

> *Recently, we conducted our educational tour with the faculty and students . We brought our students to Central Mindanao University and the Northern Mindanao Integrated Agriculture Research Center so they can see what are being done to the crops and the proper agricultural management of their crops from planting to harvesting. They get exposed to the different crops in the area as well as ornamental plants and fruit trees. And we also went to the Philippine Carabao Center in Malaybalay, Bukidnon.*

By visiting these experimental farms and stations, Agriculture students get first hand information about the various aspects of farm management from crops to the growing of fruit trees and animal breeding. Sarah claimed their exposure translates in concrete terms what they have been learning in their classrooms. Although field trips are expensive, taxing, tiresome and demanding especially in the matter of ensuring students' safety, it could bring about the best learning experiences for the students.

Likewise, exposure to the experimental farms and research centers affords students the opportunity to familiarize themselves with research being conducted in the field of agriculture. Not only does it give them an idea of possible research projects to undertake for their undergraduate thesis but also a view of what their future on-the-job-training entails. Sarah explained that as agriculture students they are expected to conduct research because they are required to write their thesis.

> *Mostly, their research is focused on the growth and yield of the different crops... the comparison of the different varieties, comparisons of fertilizers used or the effect of the fertilizer on the growth and yield of certain crops. These are mostly the research themes.*

Sarah informed me that they have acquired the eight-hectare experimental area in Kappia three years ago so the students now have an area to conduct their own experiments. Before, students had to conduct it in their own areas or had to seek another fairly accessible place. The research themes mentioned by Sarah are possible areas where they can infuse ESD in their research. For example, in the use and comparison of fertilizers, students can find out the effects not only in terms of yield. They could also look for other effects such as on people's health or to other surrounding plants.

Students on the two-year program are required to have an on-the-job training so they are sent to the agriculture stations such as in Kidapawan, on asexual propagation and in Midsayap on rice research. Kidapawan and Midsayap are municipalities north of Cotabato City.

In Environmental Education, going on field trips would lead to a better understanding of SD issues. Sarah is of the opinion that students' exposure to sites that demonstrate the use of resources would not only teach them knowledge and skills in the different fields of agriculture but most importantly, develop in students a valuing and an appreciation for nature.

Sarah explained that all the way through the trip, she pointed to places they passed by as a way to make students aware of the beauty of their surroundings.

> *We visited many places that's why we're so tired. Three days and two nights - just travelling over land, passing through Cotabato and Lanao. We passed by Lake Lanao so the students saw the beautiful lake, the mountains, the trees, the forests... it's nice to see the green vegetation all around. The students undergo such exposure and what is really important is they value our natural resources and develop an appreciation for nature..*

Sarah underscored the significance of field trips as a teaching strategy in our conversation. In spite of the problems that often arise and the enormous responsibility to insure students' safety, she believed that the activity was worth it.

Theme 2: *Some practical ESD school activities*

Sarah stated that there is indeed a need to integrate ESD in the different subject areas as it could help in the development of habits and practices that become part of the students' everyday lives. She cited the disposal of waste materials as one simple aspect in the development of attitudes towards the environment. She explained, "For example, test papers. Instead of throwing these papers, we recycle them... or we write on the unused side or use them for another purpose. It's more effective this way. Students develop the habit."

Since garbage is a serious problem in the city, Sarah felt that the proper disposal of garbage should also be a priority. In the city, the "clean and green" campaign is one of the programs that was being widely promoted. The cleanliness drive was also drummed up during their Foundation Day celebration. Noting that the theme of the event was directed towards the goal of sustainable development, I asked Sarah what activities were undertaken for that particular occasion.

> *We had a general cleaning of the whole campus. The activity focused on having a clean, green and healthful environment so that it becomes conducive for learning. We also had a general cleaning in our satellite campus. For the Agriculture students, we brought them there for the "Alay Linis"(Clean-up Offering) project. Before we start our classes, we try to have a general cleaning of the campus.*

The stress on cleanliness is very understandable. All of the research participants have expressed their concerns over the garbage problem in the city. The question of self-discipline has often come up in my conversations with some of the research participants whenever the garbage issue was mentioned. It could be inferred therefore, that Sarah's persistent striving for the maintenance of cleanliness in their department and the whole school campus is motivated by the desire to address the situation in the city. If the habit of cleanliness is successfully developed in the schools, this could be carried over to the wider community.

Sarah is very appreciative of the students' response to these activities and the support of the administration.

> *Generally, the students are very cooperative in activities ranging from cleaning of the campus to planting ornamental plants, etc. The student government is also very supportive of the activities we undertake. Likewise, the activities initiated by the different departments usually have the support of administration.*

Theme 3: *ESD training for students and faculty*

To further promote ESD, Sarah explained that their department send qualified students to attend seminars, conferences or training on sustainable development. Since everybody would like to go to these conferences, the faculty has set up its own criteria in order to make it fair for all the students and so that the most qualified will go. When they get back from the seminar, these students share what they have learned with their fellow students.

Sarah informed me that the idea of sending students to seminars or conferences indicated the growing confidence of the faculty in the ability of the youth to lead, participate and take responsibility in issues that affect them. It has been observed that students, when encouraged to contribute towards the solution to certain problems, could come up with very rich ideas. Likewise, when students share with their fellow students what they have learned from the seminars they attended, there is facility of understanding since they can relate to each other better in terms of experiences.

In like manner, the administration encourages the faculty to attend training and seminars for their professional growth. Sarah explained that "almost every year, faculty members are sent to attend these seminars and when they come back they re-echo or share with their colleagues what were taken up in the seminar or conference. This was very comforting because most of the research participants have expressed their desire to attend seminars and training to make them feel empowered and confident to teach or integrate ESD in their subject areas. Administrative support is crucial for teachers like Sarah to feel empowered to promote ESD. Furthermore, the additional 3-unit course awaiting the approval of the Academic council which, according to Sarah will be on education for sustainable development, necessitates the need for faculty members to have adequate training and background in this discipline. Sarah is optimistic that when this gets the go signal, "it will be easier to promote ESD because then it will be a specific subject in this area."

JOYCE

Engaging in a conversation with Joyce was a very enriching experience. In my second conversation session with her, she brought her pictures taken during their mountain climbing adventure of Mt. Apo. Her very vivid descriptions made me feel like I had also been there.

Responsibility has been Joyce's overriding theme in ESD. Aware of the educational structures and realities that hinder improvements in the system, Joyce strongly maintained that a sense of responsibility could override the indifference displayed by unconcerned citizens.

Of the different topics that we dealt with in our discussion of ESD, the following themes were identified:

1. The need to teach ESD in schools
2. ESD activities in the school and in the community
3. Integrating and promoting ESD

Theme 1: *The need to teach ESD in schools*

As I was about to wind up my second conversation session with Joyce on the concept of sustainable development, the subject of education and its importance in the attainment of SD was brought out. Summarizing the different ways people have interpreted SD, I presented the view that the concept of ESD needs to be also fully understood so that it could be taken up in the schools and linked to everyday life situations.

Joyce expressed the view that ESD should be taught in schools so that students could have a better understanding of the concept of sustainable development and a deeper appreciation for their environment. In turn, these knowledges and understandings could be carried over to their respective communities which could then be reflected through the adoption of practices and lifestyles consistent with SD goals.

Joyce noted that even in their school campus itself which is supposed to be a model for the promotion of sustainable development, there are still areas like the simple matter of cleanliness and sanitation that needed to be looked into. For these reasons, Joyce stressed that the concept of SD should be taken up in schools so that "students will learn how to conserve, protect and appreciate their environment and to practise these in their daily lives."

Joyce agreed that SD issues or problems should also be presented and discussed in the schools. She cited as examples the effect of oil spills on marine life or the effect of the burning of plastics on the ozone layer which in turn affects the phytoplankton, the source of food for the fishes in the sea. She also contended that it is also necessary to critically analyze environmental issues or problems because by just discussing environmental care without explaining the causes and effects of environmental degradation, students' understanding of the concept could remain superficial. Joyce remembered the Tree Planting Program of the government a few decades back where students needed a certification that they have planted a certain number of trees as a requirement for graduation. The activity lost its true message because it was made to appear like it was just something to be complied with.

For Joyce, the need for a thorough understanding of the concept of sustainable development is imperative if ESD is to be taught in the schools.

Theme 2: *ESD activities in the school and in the community*

Although ESD is not yet included in their school curriculum, Joyce informed me that the administration has encouraged them to study more about it in order to be more adequately prepared to integrate it in their classes. In terms of activities, there had been also times when they had been asked to bring their students to their experimental farm although they are not in the agriculture or forestry department. She claimed that the site was already denuded when it was acquired so they had been trying their best to help develop the farm by planting trees. A day is often set aside for this purpose. After the seedlings have been planted, the students taking up Agriculture take care of the plants. Joyce happily announced that the *gemelina* plants they have planted before have grown so fast.

The administration also encourages them to attend seminars and conferences on sustainable development. Joyce remembered attending an environmental outreach seminar at the University of Southern Mindanao (USM), one of the universities in the region.. Sometimes it is the DENR or the Department of Science and Technology (DOST) which invites them together with their students to their seminars or workshops. Although they have not formally incorporated the things they have learned in their syllabi nor formally integrated these in their classes they see to it that the activities suggested by the DENR are disseminated to the students. In the symposium on environmental awareness conducted by the DENR for example, there is "OPLAN Sagip-Hangin" (Keeping the Air Clean) wherein during the week students go out and observe the vehicles passing along the city's main thoroughfares. They note down the plate number of vehicles that have been emitting so much exhaust. This is one activity enjoyed by the students.

Joyce opined that if there would be recycling plants in the area, people might be interested to collect paper or plastics. Being able to earn money from collecting garbage could be a good motivation for them. I commented that another way to reduce garbage is to reduce wastage by practising habits of economy. It is often those who have so much who are guilty of wasteful consumption. Being aware of the effects of wasteful consumption was underscored by Joyce:

> *So if people are made aware of the dangers that this wasteful practice could do to the planet and then if they have a knowledge of what to do, then people could help in achieving sustainability. But if they are not aware, they do not have the knowledge and they are not convinced that the planet may be in jeopardy, they will not cooperate and then the coming generation will suffer.*

Environmental care is everybody's responsibility, according to Joyce. She is of the view that in order that the country will attain progress, people should not only depend on the government to do something for them. They should also have an awareness of what their government is doing for them. She also believed that "it is not only the corporations that are destroying the environment. It is also us...we are also responsible." She usually reminds her students that they need to know what is happening around them and that as future teachers they should participate and involve themselves in the management of their resources so they can help in protecting and caring for their environment. There is a need to adopt environmentally sustainable practices if humans are to survive.

Joyce narrated a sad experience in their community where a neighbor of theirs simply felt that improving the drainage in her home so that the water would not flow into their pathway is the responsibility of the government. With this kind of negative attitude, Joyce thinks bringing about a clean community becomes very difficult. Likewise, the concept of SD should be passed on to the next generation so that the children in the future will continue conserving the natural resources and caring for the environment.

Theme 3: *Integrating and promoting ESD*

In her class in Food Microbiology, Joyce explains that there are topics in which they can infuse sustainable development concepts.

> *In Microbiology for instance, we talk about the microorganisms that could be in the food that we eat, in the water we drink and in the air we breathe. I usually discuss with the students the effects of these microorganisms on our health and so the idea of health and sanitation is emphasized. Then in Food Preservation, we talk of the various ways of preserving food which is a way of preventing wastage as well as a means of making a livelihood. We make use of discussions and demonstrations in class.*

She experienced some problems though in her classes. She was concerned that the students were not very responsive. She traced the students' passivity to their being graduates of the barangay high schools and to their inadequacy in expressing themselves in English.

I informed Joyce that some of the other participants expressed the same concerns. The language problem and the seemingly inadequate preparation of graduates from the barangay high schools to tackle college work have been underscored by some of them. The use of English is really very limited because within the campus itself, students revert to their own native tongue in almost all other communication situations. It is only in the formal aspects of the lesson that English is used and even in the course of the lesson, some language shifting continuously goes on. This is indicative of the need to really look into the language problem because communication is very central to the learning process.

To effectively promote ESD, Joyce suggested that the Department of Education, Culture and Sports (DECS) should search for more ways to enhance teachers' professional and intellectual growth such as participation in seminars so they can learn better strategies to integrate ESD. Schools should also provide the materials teachers need. As well, she believed that they should also be given time considerations when they do their community outreach hence, the support of the administration is the key to their empowerment.

For the promotion of ESD in the community, Joyce shares an idea she has read in the newspapers. This is about a so-called tree bank and trees which are planted in areas within a certain community. In this program, the people in that community will assume the responsibility of taking care of these trees. Even in this very simple way, the community learns and promotes ESD.

ALI

Ali and I touched on many topics in our second and last conversations. Since he demonstrated a great interest in the topic, we almost always extended our time for these two sessions. In our discussion, Ali related his observations and experiences in his classes in Forestry which he claimed really involved the integration of ESD because of the very nature of their subject matter. His emphasis on understanding concepts and the value of practical experience generally described how he implemented ESD in his subject areas.

Of the different topics I discussed with Ali, the following themes emerged:

1. "Being educated" and "having learned"
2. ESD themes as subject matter in Forestry and Fisheries
3. Tapping human resources for SD
4. Resource materials in ESD
5. Research and empowerment in the promotion of ESD

Theme 1: *"Being educated" and "having learned"*

In the early part of our second conversation, Ali had tried to emphasize that if development is to be sustainable, then it should be beneficial to everyone. Because people have different perspectives on how it could be attained, for him, education is the best instrument to steer the country into this direction.

Ali expressed the view that education "is the real avenue towards sustainability because there is nothing that will solve our problems holistically except education." He clarified his view of education by saying that what he meant is that in the process, people learn. He claimed that not all people who have been educated, have learned. He made a distinction of what it is to "be educated" and what it is to "have learned." In his view, "being educated" does not mean just being able to write and understand as there are highly educated people mired in trouble or moral decay because they refuse to learn. He related that this was what he had been trying to instill in the minds of the young. He believed that people go to school to learn and when they step out of the school system, they apply what they have learned. As in the teaching of Christianity or Islam, he argued that education does not teach anyone to steal nor to be corrupt. To him, this is what ESD should really be about. It is not only about obtaining a diploma. It must be instilled in the minds not only of the younger generation but also of the so-called professionals that it means "being educated" and at the same time, "having also learned."

I interpreted Ali's view of education as the learning of human values and not obtaining degrees or diplomas. Like the other participants, Ali places real learning in terms of values. Values determine whether a person has genuinely learned or not. Even if one has acquired a string of degrees, one may have missed out on the development of a value system to guide one's life in relation to others and to the environment.

The development of ESD values however, hinges on an awareness and a stock of knowledge about the environment and development. Ali too, had mentioned, in our discussion of the concept of SD, the need to probe deeper into the causes of environmental problems to be able to fully understand the issues and work out real solutions. He thus, further related this to what he had been repeating all along: To be educated means having learned. Learning does not refer to the banking type or the rote memorization of facts. In his classes, he teaches his students how to draw relationships through observation and discovery. He cited as an example the drying up of a well depending on the presence or absence of trees near it. Through observation, the students are able to link the water in the well to the presence of many trees near it and vice versa. When learning takes place through this process of discovery, critical awareness is developed and the knowledge becomes very meaningful to the student since it is derived from an understanding of the interrelationships of all those that constitute the environment in real life situations.

With regards to his methods of teaching, Ali said he discourages too much memorization..

> *As I was trained during my graduate program, I advise my students not to memorize. I encourage them to try to understand the words because if you understand the words, it is very easy to recall. For example, in Forest Research, discussing what research means will take one meeting - just for the word research. So, what I tell them is first, remove the re-. What do you mean by search? They say, to search is "to quest," "to look for." We have the current technologies... for example the application of 5 mg. of... to mahogany results in a very fibrous growth We have already looked into that. Now we are trying to re-search, meaning, we've got to improve or to look for more recommendable dosage if we speak of dosage. So they understand.*

Ali found this strategy more effective with his students. Based on his observations, when these students go to the field, they know what to do. Before, they usually stayed at his back, when they go out to the community but after using his strategy to promote understanding, they are now communicating with the farmers in a more confident and active way.

In their Practicum and Field Laboratory, Ali 's students engage in certain activities that promote understanding of the concepts included in their course outlines. For example, in a certain area, Ali marks the features of a certain specific spot in the community and records the status. They monitor the available species along the creek, for example, and the volume of water that had been discharged. Through observation, students learn the fluctuations of these changes each month. Ali pointed out that exposing the students' to the site is a more effective way to develop understanding.

> *You see, what's the use of talking about so many things in the classroom when they can see it in the actual. That's why they often wonder why we are not in the classroom most of the time. Because here, how can the student identify a twig from a sprout which looks the same. So I took them out and showed them... and now, they can identify them. These are the ways I try to make my students understand. It was not the way I was taught in college, unfortunately. I only learned these things when I took my MA. I feel accountable to my students.*

Ali's strategies in the promotion of understanding certainly facilitates what he believes the goal of ESD should be, that is, real, authentic learning and the development of human values.

Theme 2: *ESD themes as subject matter in Forestry and Fisheries*

In describing the plan of the department (Forestry and Fisheries) on the aspect of ESD, Ali proposed the need for changes through the curriculum. To direct education to the goals of SD, Ali feels that there is a need to develop the curriculum through the courses by strengthening the knowledge and skills of the students. He illustrated as an example agro-forestry technology which he claimed was then practised by the old folks but at that time, they did not have the faintest idea that this was done "scientifically." His education which was based on scientific approaches greatly enriches such indigenous practices and technologies. Ali was referring to studies made about indigenous upland farming which found that intercropping with forestry crops and horticulture or agriculture crops is very productive. Ali proudly informed me that one of their graduates is now practising agro-forestry and he obviously had been successful at it because he turned down offers to buy his farm which he planned to use for intercropping. Likewise, with his guidance, a student in Fisheries is now raising *tilapia,* one of the more popular fish raised in fishponds and is also gaining from it. According to Ali, these are some of the ESD themes which they incorporate in their courses.

Ali claimed that the conventional wisdom of our forefathers is still very sound especially considering that they refused to use high tech farming and yet they were very productive. This was sustainable because it did not have any detrimental effect on the land and on people's health. He admitted though that there are new discoveries and inventions especially in medicine that must be recognized in the same manner that there are indigenous ways of treating illnesses. Ali stressed that indigenous knowledge could further strengthen and enrich their science-based curriculum.

In their forestry subjects, Ali explained that all the topics they have included in their course outlines are actually all about the environment.

> *We have our Forest Botany, then Forest Entomology which is about insects. We have Logging Operations which is about how to cut trees in the forest without damaging the environment. We have Wood Processing, Forest Dendrology and all these major subject areas of Forestry prioritize the environment because the forest resources are dependent on a balanced ecosystem.*

Ali stressed the importance of maintaining the natural resources in these topics as it puts forward the essence of sustainability.

> *They are all on sustainable development practices. We do not teach these courses without the essence of sustainability... the endless production of natural resources which, on the one hand is equal to the maintaining of the environment because otherwise, if the ecosystem is unbalanced, definitely the natural resources will be depleted. So, whenever we teach Forestry courses from the roots to the tips because forestry courses is about the roots to the tips of the tree, so we say, 'we keep the life of the tree, so, why exhaust the resources?'*

I called Ali's attention to the part of the mission statement of the college as expanded in the material given by the Vice-President for Academic Affairs (1996) which brings about an ecological dimension that is, the college "aims for the development of potentials of individuals as God-fearing, literate, ….and **ecology-oriented user, conserver and preserver"** (Underscoring supplied). I asked how the forestry and fisheries department seeks to achieve this goal. Ali remarked, "That's why we open our students to the untouched natural resources and to the rehabilitated ecosystem so they can see the beauty between. But how hard it is to reach that level of awareness in our college."

By exposing the students to where the country's natural resources have not been explored and exploited, Ali believed that this will lead them to a kind of awakening or awareness of the natural beauty and intrinsic value of their environment. Such an awareness could lead to a respect and an appreciation and valuing of these resources and eventually, to adopting ways of properly using, conserving and preserving them.

Theme 3: *Tapping human resources for SD*

According to Ali, the development of attitudes is very vital to development in any area. He narrated that his opinion was sought at one time by some leaders who were aspiring for positions regarding "how to change the attitudes of the people so they would do away with a very unsound life in society." He suggested that such an attitude can be transformed by educating them. Noting that there are many unemployed college graduates Ali concluded that the most effective education for them is one which they can make use of after graduation such as short term courses like automotive and electronics which enable them to qualify for work in other countries. He suggested that "whoever leads the country should come into an agreement with our sister countries in Asia to supply them with manpower by sending a certain number of workers for their factories or assembly lines." When they come back with the experience they gained, they can forego working in other countries and produce the gadgets and machines themselves. This way, the people's potential can be optimally tapped for production.

According to Ali, linking with other countries is imperative to the attainment of progress. However, he warns that these countries should no longer be allowed to touch our natural resources because the resources are fast becoming exhausted. He offers instead a lot of manpower and promotes it as the real resources in lieu of the environment

Theme 4: *Resource materials in the teaching of ESD*

Every faculty member in Ali's department prepares a topical outline of each course they teach. A more detailed syllabus is also prepared. Ali however sadly informed me that these were lost in a fire that razed their building a few years ago.

In spite of the limited materials in the College library, Ali has devised a few ways to deal with the problem. To enhance instruction, Ali makes an effort to buy video tapes on the environment whenever he has the chance to go on a field trip. He has found very good ones at the Philippine Eagle Breeding Station, and he lets the students watch these videos. Noting that his office is filled with environmental posters, I called Ali's attention to them.

> *They're all about the environment. Just like this one. This poster tells a lot. Because you see here the six types of forests in the Philippines, meaning by knowing the dominant species per level you will know where you are and one thing is, why do these grow in this particular place? And that is one ecological concept.*

Ali informed me that the posters had been provided by the DENR and these posters have been very useful in his classes. Posters are very effective in facilitating understanding of environmental concepts because they are usually designed to motivate the viewer and to convey a unified message. Ali networks with the DENR so he has availed of the many services they offer which greatly benefit the students. Since the college is confronted with the problem of inadequate facilities and instruments, Ali invites his friends in the DENR to serve as resource persons and to demonstrate to the students the use of these instruments. Certain instruments are greatly needed in his classes especially in Forest Surveying. In the teaching of ESD, Ali finds the inadequacy of materials as a constraint.

> *The only problem that we encounter is when we link it outside the classroom. Our subjects in Forestry needs more action. What we learn in the classroom could be made more relevant outside. So our problem is when we go outside and we do not have the materials we need. Like in wood identification, we do not have the binocular telescope. We can not have the measurement of the age of the tree by boring through that tree. That's the only constraint I have... materials. But as far as instruction in the classroom is concerned, no problem.*

In spite of the reality of limited funding, Ali believes that a resourceful teacher can always meet challenges in teaching such as networking with the DENR to cope with the problem of inadequate instructional materials.

Theme 5: *Research and empowerment in the promotion of ESD*

One of the requirements in the BSForestry (BSFo) and the BSFisheries (BSFi) programs is a six-unit undergraduate thesis based on their field research. The students conduct field experiments in their respective areas such as processing in Fisheries or plant propagation in Forestry.

Ali mentioned that he, himself has prepared four proposals which were approved by the research council in 1991 but not one was conducted because they did not have the funding. The research proposals focused on the preparation of a data bank.

> *The first thing I intended was on providing a data bank. I am envisioning a data bank...profiling. First is the socio-economic profile throughout the region. Another thing is the profile of the remaining virgin forest...and then, I have one on agro-forestry and also the identification of species that are now extinct.*

It is very unfortunate that these researches could not be pushed through since a data bank would be very useful in providing baseline data for projects or programs. Likewise, these could have helped boost the research capabilities of the college to justify its existence. For as Ali has clearly stated, it is research and extension which defines the growth and development of a college.

In discussing about the promotion of ESD in the college, Ali underscored the importance of the faculty and students. To him, they constitute "the lifeblood of the college." He suggested that in the promotion of ESD, the real basic needs of the faculty members need to be recognized because it is the faculty that makes the college alive. Hence, the faculty should be given incentives and encouragement in the pursuit of their own goals.

REFLECTIONS

As in the previous chapter, the teachers, through our conversations, have brought into language their own experiences in the lifeworld of teaching in relation to sustainable development. Their stories reflect the realities that press on their world as educators. In exploring the meaning of education for sustainable development (ESD), we tried to unveil the layers that obscured our understanding. Several issues on education, environment and development were brought into questioning by the participants. In the quest for illumination, several themes emerged from the various topics that surfaced. These themes were further sifted into broader categories which constituted the various elements of ESD.

From the teachers' voices, one gets a sense of, in Jerry's words, "that cry to transform education." Probing deeply into the teachers' experiences in the lifeworld of teaching opened up many aporias in education. There are tensions or clashes that were disclosed which emanate from how the teachers understand their roles as ESD educators, or that is revealed in the theory and practice of ESD. The dilemmas that are embedded within the structures of the system of education as well as the contradictions interlaced in SD discourses are interesting intersections that had to be navigated. What was retrieved and uncovered from the labyrinth were the elements that formed the teachers' concept of ESD.

That education is the most important vehicle towards the attainment of sustainability was resonated by all the participants. Since SD has been interpreted as having various dimensions, what was brought into questioning in our search for the meaning of ESD was what kind of education promotes the attainment of sustainable development as understood by the participants in the study.

ESD starts with the cry to transform education

In exploring the meaning of SD, emphasis was made on the need for a paradigmatic shift involving fundamental changes in perspectives, attitudes, values and lifestyles. Development can not be sustainable if the current ways and practices of life or patterns of consumption are allowed to continue. In effect, the teachers highlighted the need for change.

Likewise, in probing into the concept of ESD, the teachers echoed the call for ~~reforms~~ or change. Education can not effectively assume its role as an agency for transformation if it does not go through a process of change. Realizing this, Jerry's voice stands out in his cry for the need to transform education.

The teachers demonstrated an awareness of the various structures in the system that tend to hinder schools from becoming transformative sites, thus, reducing them to serve as instruments in the perpetuation of the status quo. Jerry did not mince words as he described the situation in the schools. His recognition of the enormous power that grips the system triggers him to examine the issue in a holistic way. In his analysis, Jerry views the teacher as part of the system and so he/she is not exonerated in its shortcomings or failures. Being central to the educational process, the teacher plays a very significant role in the process of transformation Jerry untangles the reason why schools have become mere reproductive mills. Teachers themselves have not changed. They have allowed their methodologies to become stagnant and unable to cope with the ever-accelerating pace of change. He also presented his observations that some teachers still engage in educational practices notably the "banking type" and still exhibit an "ivory tower aura" which are reminiscent of yesterday's academics. Tina echoed the same views when she enjoined her colleagues to wage a revolution which she qualified as the good one by which she meant the introduction of new techniques and exploring and innovating strategies. Bernie, aware of his limited background in teaching methodology tries out various ways to make his classes enjoyable and meaningful. The teacher participants, aware of the consequences of stagnation, demonstrated their openness to other possibilities. Thus, in trying to gain an understanding of the problems that beset the system, the teachers came to understand themselves and their relationship with the system. Hermeneutic understanding leads to self-understanding. (Gadamer, 1988).

Jerry explored the issue further. Digging deeper into the cause of the inability to change, he unearthed the structural violence that grips the system. He uncovered the relationship between the economic situation of teachers and its far-reaching effects on students' learning. He identified the time constraint as emanating from the need of the teachers for more classes to teach in order to improve their economic situation. Although a happy compromise is forged between the administration and the teachers to remedy the situation, the onus of delivering the appropriate education to students lies heavily on the teachers. To be able to do this in spite of the heavy teaching load, Jerry tries out new strategies to address the situation. In a related light, Kris expanded the problem of time to the students' situation which for her, posed a constraint in employing participatory strategies. Similarly, Alex uncovered the structural violence that hovers over the university which he tagged as a "microcosm of Philippine society." He presented the paradox that permeate the system with its ideal vision co-existing with the grim realities of poverty.

There seems to be a sense of powerlessness with the realization of the enormous power of the system and its structures hence, slight traces of resignation could be discerned from their voices. Significantly, however, in spite of the system's shortcomings, they all avow that they are not yet at the point of surrendering. Estela's voice resonates with this tension as she revealed her awareness and her criticism of the hypocrisy that she traced within the structures of society. Yet, she still clings to the idea of a "hopeful note." Tina expressed her faith in the goodness of education in spite of the glaring defects of the system. While they all realize the need to change the system, each participant has his/her own way of addressing the problems created by the structures of the same system. Of significance is the absence of the notion of a collective peacefully working for reforms or the possibility of countering the system's tremendous power. The solutions to the dilemmas are individually-centered focusing on things which one can do in his/her own way. Jerry's search for strategies for instance, addresses the effects of the problem on the students but the root cause still remains. The presence of hope among the teachers despite obvious obstacles and barriers is certainly encouraging and reflective of a key pedagogical principle of education for sustainable development within a peace education context (Floresca -Cawagas & Toh, 1989; Reardon, 1986).

Because education is vital in the promotion of SD and in enhancing the ability of people to seek solutions to environmental and development problems (UNCED, 1992), there is a need to interrogate certain structures and practices still plaguing the system which could pose barriers to the attainment of SD goals. While it may appear that these educational practices are not linked to environmental concerns, a deeper probe could unearth how poverty is linked to structures and practices that have been instrumental in the reproduction of the system. To fully understand environmental and development issues, it must be realized that they are intertwined with social, economic and political forces (Fien, 1995) These forces are not only local and national but also international and increasingly global as have been well demonstrated in the work of ecological activists like Suzuki(1997), Shiva, 1996 and Timberlake (1987). Certainly, since the educational system plays a major role in the reproduction or transformation of the social, economic and political order, putting forward a program of ESD poses a big challenge for educators. To solve problems arising from the system involves change in the system itself (Alperovitz, 1996). Hence, there is a corresponding need for change in education for "the crisis cannot be solved by the same kind of education that helped create the problems" (Orr, 1992, p.83).

ESD is the process of raising citizen's critical awareness and sensitivity to environmental and development issues

Environment and development are intertwined in the concept of SD. The teacher participants expressed their interpretation of ESD as the process of raising citizen's awareness of environmental and development issues. To understand these issues is to regard the environment as "a complex web of global social, cultural, economic and political as well as geo- and biophysical components" (Fien, 1995, p.22). Environmental problems such as the depletion of resources or pollution are related to the various aspects of development. They cannot be understood without linking them to the social, economic and political values in the societies in which these problems happen (Fien, 1990; Stapp, Wals & Stankorb, 1996; Latido, 1996).

Alex, Jenny, and Teresa expressed this view of ESD. Alex advocates the implementation of a continuous program of activities to make people aware of the importance of making development sustainable. With the globalization of the economy, Alex feels that ESD could not be more relevant especially in South countries which usually suffer from the exploitation of their resources. Hence, host countries of TNCs need to be aware of the long-term consequences of environmental degradation that results from the exploitation of resources or abuse of the carrying capacity of the earth. Such an awareness of SD issues would make people more alert and vigilant in protecting their resources from the incursion of TNCs or other groups whose concerns are centered around their vested interests of rapid growth and expansion. By being sensitive and critically aware of ecological concerns, students come to discover the roots of poverty. Critical awareness is a necessary first step in the process of conscientization. In the Philippine context as earlier noted, the presence and dynamism of several NGOs such as Haribon, Kinaiyahan and the Green Forum have contributed much to the awakening of the consciousness of the Filipino to the ecological crisis in order to mobilize the citizenry to initiate projects of environmental care. In addition, these groups help empower ordinary citizens to lobby political, social and economic leaders to create and implement policies of sustainable development (Kalaw, 1990; Kalaw, Jordan and Torres, 1991; Soriano, Claudio and Fansler, 1995).

In raising her students' awareness of environmental issues, Teresa highlighted the use of newspaper clippings as resource materials. She claimed that by bringing to students' attention the environmental problems affecting the locality or the country, students tend to be better motivated to seek solutions to the problems. They regard the problems as real and they assume that they are a part even if they are not directly involved or affected by them. It is also essential that they practice what they learn. As

Booth (1998) pointed out, linking philosophy to praxis is vital for ecologically conscious citizens. She presents the idea of environmental service projects for students with the rationale thus: "...get students doing something so they will realize that an individual can make a difference, link them to the here and now by trying to solve a problem; get them to realize how many linkages between issues and how much effort is required to make a difference…"(p.8).

Since students need opportunities to make decisions about their own education and their own lives, the raising of awareness of environmental issues would help them develop the skills, knowledge and self-confidence to solve problems that affect them. In identifying environmental issues however, caution must be taken in order not to focus too much on the negative otherwise, they could be bogged down by an issue-centered education because of the complexity of the problems (Stapp, Wals & Stankorb,1996).

Both Alex and Jenny are of the opinion that ESD should not only be confined to academe. Jenny mentioned radio, television and other forms of mass media as vehicles for the promotion of ESD. She explained that by bringing into people's awareness the realities of the environmental situation, they will realize the importance and urgency of working out solutions. By being more informed, people become more empowered to tackle issues that concern them. Similarly, Alex stressed the need for government to be more vigorously involved especially in the dissemination of information. He stressed that the promotion of ESD should involve all sectors of society adding that academe should collaborate with the government and NGOs. By involving students in activities for the promotion of environmental care like cleaning a polluted river or tree planting, they come to understand the issues and tend to assume responsibility for solving them. Aware that some activities of business and industry had been responsible for the degradation of the environment, Alex and Jenny also stressed that ESD should also have a place in the corporate world. An environmental ethic should govern their operations (Emmelin, 1986) aside from government policies and laws which as most of the participants have claimed are beautiful on paper but are often flawed in the process of implementation. An ESD curriculum would certainly need to encourage learners to consider contradictions in governmental SD policy and its implementation like the case of the Mt. Apo Geothermal Plant Project often cited in this study, indicates.

ESD is the development of knowledges, abilities, skills, attitudes and values in the promotion of life and care for the environment

The people and the environment were considered by the teacher participants as the two most important factors in SD. By stressing the importance of humanity and the earth's resources, students come to understand their relationship with the environment. Humanity is at the center of the development process hence, the focus of ESD is towards an appreciation of humanity itself because it brings forward the notion of promoting life and preventing its destruction (Orr, 1992). It therefore, connotes the continuity of life which is fundamental to the concept of sustainability. The vision-mission of SMU (Information Bulletin, 1995) reflects this respect and promotion of life which not only refers to human life but all other life forms which constitute a large portion of the environment.

Fatima, Estela and Kris underscored the importance of life in SD. In ESD, the students gain knowledge and understanding of the interrelationships of all living things as well as the links between the environment and development (Caduto, 1998). For Fatima, an appreciation for life leads to a valuing of resources from which we are dependent upon for survival. Estela, who expressed concerns over endangered species, also brought forward the population dimension of SD adding that human resources are part of the ecosystem and equally important to SD. She presented the integral link between the human population and ecological resources as complementary in the development process and impact on each other. Kris mentioned the goals of SMU as expressed in its vision-mission as reflective of ESD goals such as its advocacy for "the respect and promotion of life." This goal calls for a commitment for the promotion of "health, harmony, balance, wholeness and diversity" for both "human and natural systems" (Orr, 1992, p.133). Suzuki (1997) has talked inspiringly of the sacred balance which reminds us of our place in nature in order to live in balance with our surroundings.

Most of the participants brought out the need to enhance the quality of life. Environmental problems such as pollution, forest denudation and soil erosion impact heavily on the quality of people's lives. ESD provides the avenues for a holistic understanding of environmental and development problems. By critically analyzing the causes of these problems, students learn to seek and work out solutions. They also develop their problem solving skills and their ability to make decisions. In the classroom, whether ESD is taught as a separate subject or is integrated with other subjects, the goals are directed towards developing such knowledge, abilities and skills that help in solving environmental and development issues for the promotion of life. ESD promotes caring for the environment which ensures the enhancement of the quality of life and the protection of resources so that the needs of the present and the future are met.

All the participants have mentioned the development of values. Estela related this to SMU's vision-mission which specifically identifies the valuing of life and emphasizes the values of truth, love, justice and peace. Peace and justice are the strong pillars on which to build political institutions needed for sustainability (Conca, 1996). With SD issues usually emanating from structural violence and human rights violations, a deeper understanding of the concept of SD brings into light the significance of these values in the attainment of sustainable development. By taking the environment as comprising all of creation, the values of truth and love extends to other life forms. As mentioned in the previous chapter, peace and justice are necessary elements of SD In the Philippine context, green theologians and activists such as McDonagh (1986) and Kalaw (1990) are especially relevant to revisioning the relationship of humans with their environment in terms of "stewardship" rather than "dominion."

Joyce highlighted the need to teach ESD in schools so, students will understand and appreciate their environment better. Sarah and Fatima echoed a similar view and stressed that through exposure as in field trips, students develop an appreciation for their natural resources. Such understanding and appreciation lead to the adoption of behaviors, practices and lifestyles consistent with the goals of SD. There is of course, a simultaneous need to reflect deeply on the possible contradictions in such environmental exposures. One is reminded of the proliferation of "eco-tourism" worldwide. While an underlying principle of eco-tourism is to connect people to "nature," some kinds of ecotourist practices (especially those promoted as corporate and commercialized ventures) can even cause further environmental damage. Thus, to most of the teacher participants, ESD involves the development of knowledges, abilities and skills, attitudes and values that foster the promotion and enhancement of the quality of life and the environment.

ESD involves an understanding of the interdependence of all things

Many of the teacher participants in the study highlighted one important principle with regard to the study of the environment: the interdependence of all living things (Emmelin, 1986). An understanding of the notion of interdependence is a vital component of ESD mainly because the human and natural systems are so intertwined, they are regarded as part of the same whole. Estela had pointed to the environment as "all of creation" which hurls a challenge to the anthropocentric view whereby humans are regarded as superior thus giving them the right to dominate over all species (Drengson, 1995; Bell, Russell & Plotkin, 1998). Moreover, the issue of the environment cannot be taken in isolation of the big picture. The teacher participants understand that environmental problems are linked with other aspects such as the social, economic, political and cultural issues. Kris discussed in her Science class the need to maintain balance through biodiversity. Ali presented it in his explanation of the interrelationships among forester, the people and the forest in Social Forestry. Jerry touched on this aspect when he described his "sharing" strategy as illustrative of the links that bind students in a relationship of mutual sharing and interdependence. Fatima illustrated it with her community based activities. Alex underscored its significance in his claim that ESD should be a collaborative effort among the various sectors of society. Whether as a concept to be taught or a process to be done, the concept of interdependence is crucial in ESD. However, as Toh (1987 has stressed, the "quality" of the relationship of interdependence needs to be always critically examined Interdependence not grounded in justice, reciprocity and horizontal power sharing can become a vehicle for further domination and appropriation.

ESD involves the teaching of self-reliance and the development of self-sufficiency

Some of the teacher participants viewed ESD at a micro level, in the home and family or in the community. Self-reliance and the active participation of the people to improve their lives is corollary to the process of people-centered development (Emmelin, 1988). In Livelihood Education for instance, as taught by Teresa, care for the environment is integrated with projects for the development of self-sufficiency. This was also stressed by Joyce in her class in Food Microbiology where conservation and wise use of resources is taken up alongside skills of food preservation.

Self-reliance and self-sufficiency are also demonstrated in the Health Resources Development Program in the College of Nursing designed to establish linkages in the rural areas to bring about the concept of community health care. In this program, as explained by Fatima, the people in the community are also involved and the resources like the herbs and other medicinal plants in the community are tapped and utilized for the health and medical needs of the people. With health care inaccessible in remote areas, this community-based program's framework focuses more on the preventative aspects of health care.

The Accelerated Trainee Program of the College of Education also stresses community self-help. Teresa explained that in this program, students are taught composting and making herbal gardens and in turn, they can teach the same skills to the community in their practicum. The College also has a literacy program which integrates environmental care. Students go out to the community where they have established learning centers where very young children are taught literacy and numerative skills. Teresa as a community leader introduces the growing of herbal gardens and tree planting as a way to promote self-sufficiency with the use of indigenous resources.

The notion of self-reliance could be gleaned from the environmental activities in the community participated in or initiated by teachers and students. Jenny claimed that her class joined in cleaning the city during the World Clean-up Day celebration while Joyce related their tree planting activities in their school's laboratory site as a way to reforest the area.

In several instances, the teacher participants envisioned ESD as focusing on the environmental problems faced by their own communities and acting on it. This problem solving strategy eliminates the wall between theory and practice. Learning becomes a continuous and dynamic process of doing, practising, experiencing and living along the path to sustainability. As the burgeoning exemplars of people-centered development worldwide demonstrate, projects and programs that promote self-reliance rather than dependency among the marginalized invariably result in ordinary peoples taking in the risk-taking responsibility to save their local environment and in turn the very basis of their sustainable survival (Timberlake, 1987).

ESD is best carried out through a participatory approach.

Although the teachers claimed to use a variety of pedagogical approaches, most of them expressed preference for a participatory approach in the teaching of ESD. At best, it is also experiential. Several strategies were devised and employed in their integration of

ESD. Jerry devised his own "sharing' strategy which, he claimed, offers more opportunities for wider student participation. Jenny, likewise employed a group sharing strategy, which she found effective in guiding students to work collaboratively as a team. Alex mentioned his use of small group discussions together with web charting while Estela related with enthusiasm her various strategies such as letter writing, song writing, debates and role plays. Teresa indicated her use of newspaper clippings in her small group discussions aside from practicum where students learn by doing in aspects where it is most appropriate. Joyce described her use of demonstrations in her classes in Food Microbiology aside from lecture discussions. Ali brought his classes to the field where it is easier for him to demonstrate processes and explain concepts in a more meaningful way. He also invited resource speakers especially from the DENR (Department of Environment and Natural Resources) when necessary. Kris and Sarah acknowledged the advantages of going on field trips but find the preparatory process in itself too cumbersome aside from the financial constraint, physical strain and enormous responsibility that go with it. In spite of the constraints, bringing the learning outdoors is one strategy that meets our natural desire for exploration and discovery (Bell, Russet & Plotkin, 1998). Fatima used a variety of teaching strategies like focus group discussions and exposure trips which are further enriched through their linkage with the community in their Health Resources Development Program. Although Tina and Bernie claimed not to have integrated ESD in their classes, their ideas on how they could make the teaching of ESD meaningful and enjoyable were indicative of their creativity and resourcefulness in teaching which could work very well in the process of infusing ESD themes.

To most of the participants, their preference for the use of participatory strategies in the teaching of ESD was due not only to their proven effectiveness in carrying out their lesson's objectives. This is also because based on how NGOs and POs wage their battle against unsustainable projects and activities of unconcerned businesses, the value of networking and collaborative action has been underscored in working for a successful resolution to these problems (Kalaw, 1990; Soriano, Claudio & Fansler, 1995). It is the concept and process of democratic participation which some of the participants felt, as likewise, being enhanced in the use of participatory strategies.

Some problems however, were presented as posing constraints in their use of participatory strategies. Preparation time for both teachers and students to read so they can broaden and expand their stock knowledge of the subject matter at hand, language difficulties on the part of students, the noise level and for the teachers from South Plains State College, the inadequacy of resource materials, facilities and equipment. Although they indicated that they have exerted efforts to partially address these problems, they believe that an ESD training or seminar-workshop will give them an added confidence to teach it.

Contextual resource materials facilitate the teaching of ESD

Curricular resources which include books, periodicals or videotapes help facilitate learning in ESD. All the teacher participants from SMU find their library resources on ESD quite adequate. Likewise, resource materials can be accessed from the Peace Education Center which has an organized file of newspaper clippings, pamphlets, brochures, reports and other documents. Most of the teachers like Alex found the resources of the Peace Education Center very useful in the integration of ESD in their classes. South Plains State College however, suffer from a dearth of library resources, facilities and equipment. The teachers, though, have tried to partially address the situation through other sources of information like inviting resource persons and using newspaper and magazine clippings.

A significant point had been raised by Kris regarding books on SD or Ecology. She pointed out the lack of a Filipino setting in the books available in the library especially on Ecology. The findings of the Asian Development Bank (AD)-assisted Study on Environmental Education in the Philippines (DENR-DECS, March 1992) included the lack of facilities and equipment including library resources as one of the major constraints in the teaching of Environmental Education in the tertiary level. To address the problem, it recommended an Environmental Education Publications Program to be spearheaded by the DECS in collaboration with local publishers to provide low-cost reprints of foreign textbooks The reprinting of foreign textbooks is authorized by the Philippine government by virtue of Presidential Decree no. 235 as amended by Presidential Decree No.400. However, the textbook problem has remained in spite of the enactment of Republic Act 8047 or the Book Industry Development Act in June 1995, because of bureaucratic procedures and maneuverings within the National Book Development Board (Tan,1996). Kris' search for the Filipino setting therefore, is validated by these developments in the textbook industry.

While many Filipino NGOs and environmental groups have access to electronic media and information technology and have their own Internet web sites, it is usually not within the reach of a majority of poor Filipinos including university and college students who live in the countryside.

A holistic framework best fits an ESD curricular structure

Since ESD is integrated in the different subjects/courses, there is a need to infuse it in the course syllabus. Estela and Kris had voiced the opinion that ESD themes should be part of the syllabus or course outline. The difference between integration and incidental teaching had been clarified with the teacher participants. While both can enrich teaching, the advantage of integration stems from the fact that ESD is woven into the lesson and is less likely to be forgotten by the teacher but is more likely to happen in incidental teaching.

The time constraint has been cited by the teacher participants as hampering the adoption of a participatory approach to teaching ESD. Kris expressed her concern that because of this, the time to finish all units in the course syllabus is oftentimes affected.

This concern was similarly identified as an issue in the ADB (Asian Development Bank) Study on Environmental Education (DENR-DECS, March 1992). It was reported that in the teacher education program, community-based activities and problem solving experiences pose disruptions on the schedule because of the longer time to accomplish them. To prevent large chunks of subject matter from being left out, a holistic framework could be applied to the organization of the course syllabus or course outline. In this way, redundancy is avoided and the concepts or themes are seen as part of a unified whole rather than as fragmented units isolated from the subject matter at hand. The same ADB study (DENR-DECS, March 1992) had likewise indicated that problems of repeating a particular environmental problem to the neglect of other problems may occur if these are not treated at different levels of complexity. Furthermore, a multi-disciplinary approach to the infusion of environmental concepts necessitates a longer time to deal with the issues hence, other concepts could be neglected.

In the preparation of the course outline, the environmental issues considered as priority areas of concern in the community could be focused on. Because the everyday personal lives of people are affected by local sustainability issues, it is important to focus on bringing local concerns to the big picture (BC Round Table on the Environment and the Economy, 1993). With its reflection of local concerns, the course will generate greater appeal to students who seek its relevance through the opportunities and experiences it offers for their preparation and participation in the study and solution of problems confronting their own communities.

The community-based program under HRDP (Health Resources Development Program) approximates this curricular structure as described by Fatima. In a similar vein, the selection and inclusion of ESD reading materials in Ethics and English weaves ESD content into the structure of the syllabi. As peace and global educators generally agree, the most effective pedagogical strategy is to infuse or integrate relevant peace issues through the curriculum (Hicks, 1988; Reardon, 1986) which could also work very well in ESD. In the Mindanao context, likewise, a significant portion of in-service initiatives have comprised teachers' workshops to facilitate integration of peace including sustainable development concepts into all subject areas.

To make it alive and dynamic, ESD should permeate into the school and the wider community through the institution's community outreach program.

Contradictions and dilemmas in the practice of ESD have been claimed by some of the teachers like Jerry and Arlene as constituting the laments of teaching ESD. To respond to these dilemmas, some of them proposed a carry-over of ESD activities outside of the classroom. Jenny brought forth the idea of banning the use of plastic cups in the school cafeteria and of students participating in the cleaning of the graffiti on classroom walls. Alex brought out their department's plan to organize a seminar on Muslim women to be participated in by women from other communities. Teresa had her students' put up a vegetable garden and a herbal garden near the school. As well, they have tied up with the Nonformal Education office in carrying out their literacy program to very young children in the rural communities. Sarah and Arlene have tried pushing a "clean and green" program within the school campus. The Health Resources Development Program of the College of Nursing exemplifies this attempt to make ESD functional and reflective of a coordinated school-community endeavor.

To teach ESD effectively, teachers need to be empowered

The teachers are of the view that they could be more empowered to effectively teach and implement ESD through various ways. Most of them pointed out that they feel empowered to teach ESD if they have an adequate background knowledge of the subject matter. They suggested participating in a seminar or training as a means of empowering them to enhance their effectiveness as ESD teachers. Likewise, they indicated the importance of the encouragement and support of the administration for this purpose. A few of them recognized the value of students' cooperation. Jerry explained that establishing open communication lines with his students and building human bridges will empower him to effectively and creatively teach ESD. Estela finds empowerment from the spiritual and her sense of responsibility as an ESD educator.

Although the teachers felt that there are problems besetting the system of education, their voices still resonated with hope. Their experiences reflected a continuous struggle but they have always viewed these constraints as opportunities to improve themselves as ESD and peace educators.

CHAPTER SIX

THE IMPLEMENTATION OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

Introduction

While the previous chapters presented the teachers' understandings of "sustainable development" (SD) and "education for sustainable development" (ESD), in this chapter, I will describe how ESD is implemented in the two educational institutions involved in the study. I initially examined the policies and goals of the nation since they provide the wider context of influences that help shape ESD in the education system. Secondly, I looked at the Vision-Mission of both Saint Mary's University and South Plains State College as they relate to the promotion of ESD. Thirdly, I endeavoured to present an analysis of the two institutions' policies, programs, initiatives, linkages and activities as they relate to ESD in both formal and non-formal education contexts. In short, this chapter describes the institutional context in which teachers practise and live their experiences of education for sustainable development.

Deviating from the use of hermeneutic conversations in chapters four and five, data for this chapter were more appropriately gathered through interviews, participant observation and document analysis. Interviews were conducted with the Vice-President for Academic Affairs (VPAA) of each institution, student leaders, community outreach coordinator, representatives from NGOs, the church and the media. As a participant observer, I visited, observed and participated in a few classes and in some of the schools' events. I kept my observation notes in a journal. Documents such as the Vision-Mission of each institution and samples of course syllabi and ESD resource materials used by the teacher participants in the study were also interpreted and analyzed.

NATIONAL POLICIES AND GOALS

The Philippine Constitution of 1987

The importance of a balanced ecology is contained in the Philippine Constitution. Section 16 of Article II states that "The state shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature" (Philippine Constitution, 1987).

The Philippine Environmental Policy (PD 1151) and the Philippine Environmental Code (PD 1152)

The Philippine government has a history of being sensitive to environmental education issues. Two early pieces of legislations enacted in 1977 concerning the protection of the environment include Presidential Decree 1151 often referred to as the Philippine Environmental Policy (Quizon, Ravanera & Ingles, 1990) and Presidential Decree 1152 or more commonly called the Philippine Environmental Code (DENR-DECS, March 1992; Soriano, Claudio & Fansler, 1995). These twin legislations provide direction for the conduct of environmental education in schools and community sectors. The Philippine Environmental Policy mandated the then National Environmental Protection Council (NEPC) now the Environmental Management Bureau (EMB) to conduct education and training in order to foster a better quality of life through environmental improvement. The Philippine Environmental Code, promulgated in 1977, directed the Department of Education, Culture and Sports (DECS) and the National Environmental Protection Council (NEPC) to collaborate in the integration of environmental education in all levels of the school curriculum. (DENR & DECS, March 1992). Section 53 of the Code states the role of each agency:

> The Department of Education, Culture and Sports shall integrate subjects in environmental education in its school curriculum at all levels. It shall also endeavor to conduct special community education emphasizing the relationship between man and nature.
>
> The National Environment Protection Council (now the EMB) and other government agencies should undertake public information activities for the purpose of stimulating awareness and encouraging involvement in environmental protection. (DENR & DECS, March 1992, p.11)

The coordination of environmental education policies and programs is being pursued by EMB through its Environmental Education and Information Division (EEID) while the administration of these policies is undertaken by DECS since it has jurisdiction and control over academic institutions. In the case of tertiary education, in 1994, the Commission on Higher Education (CHED) was established by the Higher Education Act of 1994 or R.A. No. 7722. Before the creation of CHED, the Bureau of Higher Education of the DECS carried out functions that pertained to higher education institutions. It supervised the implementation of the policy of integrating environmental education in the tertiary level. With its creation, CHED has taken over jurisdiction of both public and private higher education institutions and degree-granting programs in all public and private post secondary education institutions (CHED Brochure, 1994).

The Philippine Strategy for Sustainable Development

Further differentiation in the notion of environmental education occurred in 1989, when the Philippine Cabinet approved the Philippine Strategy for Sustainable Development (PSSD) through Cabinet Resolution No. 37. This document which emerged as the product of a multisectoral workshop initiated by the Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources (DENR) consists of a conceptual framework and a set of core strategies for sustainable development. The PSSD document provides for the strengthening of environmental education in all levels of education (DENR, 1989; Soriano, Claudio & Fansler, 1995).

To operationalize the government's policy on environmental education contained in the PSSD, a National Environmental Education Action Plan (NEEAP) was drafted by a team of consultants from the DENR, DECS and the Extra Skills Training Systems of New Zealand. The NEEAP sought to address the environmental education needs of the various sectors in education and to formulate an integrated and comprehensive education solution to Philippine environmental problems (DENR &DECS, May 1992).

The 1989 intersectoral workshop on the development of an Environmental Education Strategy has adopted the following goal of environmental education:

> Environmental Education's Goal: to develop an environmentally literate and responsible citizenry who shall ensure the protection and improvement of the Philippine environment in order to promote and implement sustainability, social equity and economic efficiency in the use of the country's natural resources. (DENR & DECS, March 1992, p.2)

A broader definition of Environmental Education was presented in the National Environmental Education Action Plan to operationalize the government's policy on environmental education as expressed within PSSD:

> Environmental education [EE] is the process by which people develop awareness, concern and knowledge of the environment and its diverse values and processes, and learn to use this understanding to preserve, conserve and utilize the environment in a sustainable manner for the benefit of present and future generations. EE involves the acquisition of skills, motivation and commitments to work individually and collectively toward the solution of current environmental problems and the prevention of new ones. (DENR-DECS, May 1992, p.15)

The two major objectives of EE as conceived in the PSSD (DENR. 1989) are:

> The first is to enable citizens to understand and appreciate the complex nature of the environment, as well as the role played by a properly managed environment in economic development and to develop social values that are strongly supportive of environmental protection and which will create the commitment and political will to deal with difficult issues.
>
> The second objective is to develop the local knowledge base about the local environment and natural resources through the development and promotion of tertiary and graduate courses in ecology, environmental science, resource management and resource economics. (pp.11-12)

The following emphasis has been recommended for environmental education in the tertiary sector:

> Higher Education: environmental education at the higher education level should contribute to the deepening of knowledge and developing the necessary skills for the management and improvement of environmental quality that is conducive to the welfare/well-being of the Filipino people. EE at this level should help develop a critical mass of specialists for the management of environmental resources in a manner which sustains its productivity and maintains its ecological integrity. For the nonspecialists, environmental education at the tertiary level should incorporate environmental perspectives in the General Education curriculum of all professional disciplines. (DENR-DECS, May 1992, p.15).

Although it is beyond the scope of this study to examine in-depth national policies and programs on environmental education, it is pertinent to raise questions about the paradigmatic orientation of such policies. As presented in the DENR-DECS review of EE (DENR-DECS, March 1992), the EE curriculum did not address the problem of poverty. Curriculum development efforts to orient education to national development goals through environmental education in the perspective of sustainable development may not strongly address the problem of poverty. In listing as one of its guiding principles the recognition of poverty as both a cause and consequence of environmental degradation, the PSSD tends towards a "blame-the-victim" stance. As Graf (1993) has argued, there is a deeper cause to poverty. An examination of societal structures would unearth the violence that is perpetuated as behind the wide disparities in society. As well, the objectives of EE as conceived by the PSSD cover only an understanding of the nature of the environment which does not adequately address the many social, economic, cultural and political issues intertwined with environmental problems.

The Philippine Council for Sustainable Development (PCSD) and Philippine Agenda (PA) 21

Simultaneously, with the above Philippine legislation, sustainable development emerged as a popular concept internationally in government and business circles with the

WCED Brundtland Report in 1987 and the Rio Earth Summit in 1992. The WCED Report titled, "Our Common Future," (1987) raised people's awareness of the integral link between environment and development and the need for a united effort to save the planet. I remember very well the high expectations over the huge Earth Summit held in Rio de Janeiro as a response to this call for ecological reforms.

As the "most comprehensive and far-reaching programme of action ever approved by the world community," (Quarrie, 1992, p.9), Agenda 21, a product of the Earth Summit, sets the foundation for a course of action for countries all over the world as they chart their path towards sustainability. In the words of Kevin McGrath (1992), resident representative of the United Nations Development Programme (UNDP), Agenda 21 is "an agenda for change which requires a new approach to development" (p.vii).

Since that historic Summit, National Councils for Sustainable Development (NCSDs) have been established in many countries. To carry on the spirit of Rio, Executive Order No.15 created the Philippine Council for Sustainable Development (PCSD) to function as a monitoring body on the government's compliance with the official commitments made at the United Nations Conference on the Environment and Development (UNCED). Composed of representatives from the government and non-government sectors, PCSD was also designed to review commitments made, carry out advocacy work, conduct research for policy formulation and draft legislation on sustainable development (Soriano, Claudio & Fansler, 1995).

The various National Councils for Sustainable Development encouraged the wider participation of civil society in the process of decision making (NCSD Network, 1998). In response, Philippine Agenda 21 emerged from a nationwide consultation process involving "a series of multilevel, multisectoral and multistakeholder reviews and workshops" (PCSD, 1996, p. iv). As explained by Habito, Chairperson of the PCSD, Philippine Agenda 21 (PCSD,1996)

> envisions a better quality of life for all Filipinos through the development of a just, moral, creative, spiritual, economically vibrant, caring, diverse yet cohesive society characterized by appropriate productivity, participatory and democratic processes and living in harmony and within the limits of the carrying capacity of the earth. (p.iv)

As contained in Agenda 21 (UNCED, 1992), education plays a vital role in promoting the goal of sustainable development and in enhancing people's ability to address environment and development issues. It serves as an instrument in the development of skills, attitudes and behavior consistent with sustainable development.

The PCSD recognizes that the pursuit of sustainable development (SD) involves a paradigm shift (PCSD, 1996, p.94) hence, there is a need for a re-orientation in the fundamental values of society. In this regard, the role of information, education, and communication (IEC), is crucial in incorporating the principles of Philippine Agenda 21 in the development efforts of all stakeholders. As quoted below, Philippine Agenda 21 (PCSD, 1996) also explains the role of education for sustainable development as part of the cultural parameter that guides all development:

> Education for sustainable development is geared towards the realization of the full potential of the human being as an individual and as an integral member of a family, community and society as a whole. Besides developing economic, ecological, political and cultural literacy and competence, education also promotes human well-being, develops emotional and mental intelligence as well as the moral and spiritual potentials of the human being. Moreover, education motivates the human being to place one's developed capacities in the service of the Supreme Being, nature, society and sustainable development. (p.14)

As the nation's blueprint for SD, Philippine Agenda 21 draws on the various sustainable development strategies and initiatives and integrates them into a unified whole.

> It does not duplicate but builds on existing and on-going initiatives related to sustainable development. Hence, sustainable development in the Philippines is the accumulation of conceptual and operational breakthroughs generated by the Philippine Strategy for Sustainable Development, Social Reform Agenda and Human and Ecological Security, among others. Sustainable development is also a product of the process itself, of engaging various stakeholders and of working in global, national and local arenas. (p. xi)

Environmental Education and Education for Sustainable Development

It must be noted that "sustainable development" as a term which was propelled to international recognition in the 1987 WCED Brundtland Report and the 1992 Earth Summit is of recent coinage. "Education for Sustainable Development" (ESD) was not yet used as a discipline title in institutions or in reports at the time of data collection. Significantly, I found the term used in Philippine Agenda 21 (as quoted above) only in the part which explains the cultural parameter that guides development. Environmental Education has been used since the birth of the environmental era in the 1970s. However, EE has been evolving in terms of its curricular focus and coverage in response to major developments concerning the environment in recent times. In reviewing the curricular structure of environmental education, the Asian Development Bank-assisted study (DENR & DECS, March 1992) reported that

> Education in the 70's strongly focused on concepts and principles. These were taught in isolation with what was happening in society. For example, students were taught biological principles but the dangers in disrupting ecological balance brought about by deforestation or illegal fishing practices were not discussed. Students learned about chemical fertilizers but their use was not related to agricultural problems. Students were presented with flowcharts showing transformations of energy from chemical to mechanical to electrical energy but were not made aware of the environmental and economic effects of uncontrolled consumption of energy. Students learned about location of scenic spots in the country but were not made to realize the impact of the influx of tourists in the lifestyle of people in affected communities. (p.22)

In the attempt to make education more meaningful to students' lives, attempts for curricular reforms took into consideration the need to include societal, political and economic issues although of course, as stated earlier how such issues are considered are shaped by the paradigmatic orientations underpinning EE. The issues could still be viewed through the Dominant Social Paradigm (Milbrath, 1996) which advocates for continued economic growth to alleviate poverty and does not address its deeper causes. With the environment-development agenda incorporating the term "sustainable development," EE is likewise being reconceptualized towards the perspective of sustainable development (DENR & DECS, 1992). Thus, in this section of the study, Education for Sustainable Development is also used in reference to Environmental Education which includes all learning about the environment.

THE IMPLEMENTATION OF ESD AT ST. MARY'S UNIVERSITY

Education for Sustainable Development Policies

St. Mary's University is one of the Catholic universities in Mindanao founded by a group of pioneering missionaries in Cotabato. From a fledgling college of 172 students in 1948, it has grown and expanded through the years (SMU Information Bulletin, 1995). Conveniently located in Cotabato City, the institution is presently composed of seven colleges with a total of 6,126 students as of the first term of schoolyear 1996-97 (Balinghad, 1997). It provides a tri-dimensional kind of education in that it is concerned with students' academic preparation, their spiritual enrichment and sense of community and their becoming "a person for others" (SMU Information Bulletin,1995, p.13). It includes in its mission the building of "a true human and Christian community" along with its academic and scientific pursuit of excellence.

In line with the provisions of the Philippine Environmental Code of 1977 and the National Strategy on Environmental Education, SMU promotes the strengthening of environmental education or education for sustainable development by integrating it in the curriculum. Although it does not have a specific formal institutional policy statement to this effect, it is committed to the promotion of EE/ESD not only within the university itself but also in the wider community of Cotabato City in which it is located. The Vice-President for Academic Affairs of SMU explained the absence of an ESD policy:

> *We mandate all students to take Peace Education, part of which is education for sustainable development. But it is not ESD per se. And then, second is we really emphasize on values and environmental care is part of the values that we would like to promote. (Interview, SMU VPAA: 11-6-96)*

University policies are formulated and approved by the President's cabinet of which the VPAA is a member. The Academic Council, which is composed of all deans of colleges participate in the formulation of academic policies. For instance, the program of rewriting course syllabi in order to integrate values came about with the participation of the members of the Academic Council. The policy procedure was formulated by the council and this is included in the Policy Manuals. During the data collection period, the Policy Manuals were being revised to incorporate new policy developments.

The university's commitment to EE/ESD could be gleaned from the goals and values printed on the walls of one of its buildings:

> SMU prepares young men and women to live their God-given vocation in a mature and responsible manner that they assume positions of responsibility in the church and society.
>
> SMU teaches not only how to study and what to study but also how to care for people's problems, social justice, peace and the environment.

These statements indicate that the focus of SMU education is not only aimed towards academic pursuits but also embraces the nurturing of humanizing values geared towards the development of a responsible citizenry in the community. It is significant to note the emphasis on people, peace, social justice and the environment which are the very elements that could bring about sustainable development.

The Vision-Mission

Although it does not explicitly use the term, "sustainable development," the university's Vision-Mission is related to sustainable development goals.

> Our Vision
> As a Catholic University under the patronage of Mary Immaculate our Mother and Model, in the Archdiocese of Cotabato, we are called to be:
> ° a community of living witnesses to the Gospel values;
> ° co-disciples of the Oblates of Mary Immaculate;
> ° apostles through teaching, research and extension services;
> ° a center in the area for the meeting and dialogue between science and faith

Our Mission

- To build a true human and Christian community within the campus and assist in the building of Basic Ecclesial communities in the area;
- To address ourselves to the diverse socio-economic, cultural and political needs as witnesses to and instrument for total human development and salvation;
- To give special attention to the poor, deprived, oppressed, marginalized and exploited particularly in the active participation of the ministries and apostolates of the Oblates and in the mission of the local church to live a lifestyle expressive of Christian values, respecting and promoting life and human rights, working for truth, justice, love and peace;
- To enable students to become authentic persons to the end that true Filipinism is achieved in them and through them;
- Finally, through the intercession of our patroness, we call upon the Holy Spirit to help us bring to fruition this vision/mission we have developed through His guidance (SMU Information Bulletin, 1995)

While the institution's Vision/Mission is more expressive of its Catholic orientation, I sensed that it reflects a commitment towards the building and nurturing of humanizing values which constitute the very foundation of sustainable development. Education that shows concern for the "poor, deprived, oppressed, marginalized and exploited" in its mission of "respecting and promoting life and human rights and working for truth, justice, love and peace" clearly demonstrates its sensitivity to the prevailing realities of its social setting. By gearing education towards the respect and promotion of life, the institution is charting a path towards sustainability. As Orr (1992) writes, "education relevant to the transition to a sustainable society demands first, an uncompromising commitment to life and its preservation" (p.133). The Vision-Mission, without much debate could apply the aspect of "respecting and promoting life and human rights" not only to human life but to all other life forms which comprise a very large portion of the environment. A respect for life guarantees the preservation of our resources and the maintenance of biodiversity for the survival of various ecosystems. It provides for continuity and sustainability, hence, considers the needs of future generations. Nonetheless, I was somewhat surprised why SMU has not incorporated in its vision-mission the term, "sustainability" or "sustainable development" to make it more explicit and visible considering that a refocusing of its vision-mission may be necessary for the twenty-first century. I also recall that in 1989, the Catholic Bishops Conference of the Philippines issued a very inspiring pastoral letter on environmental care called "What Is Happening to Our Beautiful Land?"

As an ESD educator, I empathized with the mission's emphasis on the values of "truth, justice, love and peace." In building "a true human community," these values help bring about its very essence, the recognition of the link that binds all forms of life together (Orr, 1992; Conca, 1996; Jardine, 1997; Bernard & Young, 1997). The celebration of interdependence in the educational process promotes strategies of democratic participation, sharing and cooperation which are all essential in the development of problem-solving and decision-making skills. These are very important in addressing issues on sustainable development. Likewise, education that aims for the "development of authentic persons" mirrors the concept of "Paideia," a kind of learning that seeks for "self-transformation, personal wholeness and competence," (Orr, 1992, p.138). This is similar to the notions of self-realization of Naess (1995) who draws on the teachings of Gandhi in her formulation of the relationship of human beings with their environment. It is also in consonance with the role of ESD as geared towards the realization of the human being's full potential, as contained in the cultural parameter of development in Philippine Agenda 21 (1996). Such qualities, when cultivated by students who will soon find their place in society, are necessary to generate a kind of transformation that could effect a smooth transition towards a sustainable society.

Interestingly, the mission statement includes the idea of true Filipinism being achieved in and through the students. With the forces of globalization rapidly sweeping down national borders, a sense of identity is necessary to ensure the protection of the national interest. PA 21 (1996) takes cognizance of this trend as it resonates the challenges of the current wave of globalization on national sovereignty. Sustainable development calls for the protection and conservation of natural resources as well as the respect for human rights and the upholding of human dignity. A sense of national identity would therefore, enhance the development of "authentic persons" who would protect the national sovereignty. With the emergence of the global community built by the massive and powerful network of transportation, information and communications technology, a national identity is very relevant to ensure the maintenance of a nation's integrity and to safeguard and protect its people from the forces of oppression, injustice and hegemony. In this regard, I need to stress that an appropriate national identity does not and should not mean that variety of "nationalism" built on fundamentalism, chauvinism and intolerance.

The university's vision-mission in effect, encompasses values geared towards the goal of EE as adopted in the workshop on the development of an Environmental Education Strategy in 1989 (DENR & DECS, March 1992). However, it would be desirable if its vision-mission would reflect a "greener" shade by including in its statement the principle of sustainability. The development of "authentic persons" would bring about citizens who are environmentally responsible and literate. Guided by the institution's mission of promoting and respecting life, these graduates will be adequately equipped with tools necessary to "ensure the protection and improvement of the Philippine environment" (DENR & DECS, March 1992). With the development of enduring values such as "truth, justice, love and peace" as well as the respect for human rights, a special concern for the poor and the oppressed and by addressing the country's various needs, SMU education can provide for "the promotion of sustainability, social equity and economic efficiency in the use of the country's natural resources" (DENR & DECS, 1992, p. 2).

While the Vision-Mission comes as an expression of the institution's intentions which are reflective of the promotion of ESD, several flaws could be traced in its process of fulfilling these aspirations. Indeed, most of the teachers who participated in this study, pointed to the university's strong commitment to ESD as the stated goals highlight its promotion. However, they also expressed their concerns over some gaps between these stated goals and the realities that surround their implementation.

In spite of the university's quest to provide "quality" education, some of the participants expressed their concerns on what greatly hinders them in attaining this objective. Jerry's (one of the research participants) reflection provides a very clear picture of the structural violence that lurks amidst the peaceful and serene facade of the institution. He explained that because of the economic situation of teachers basing from their salaries, they are driven to take additional courses to teach on top of the regular load. With more classes to teach, teachers need more time to prepare, to mark papers and to attend to all the other tasks related to teaching. This situation makes it difficult for teachers to satisfactorily fulfil the demands of teaching. The university administration consents to this arrangement prevailing on the goodwill of current teachers instead of hiring more teachers. It helps the teachers and at the same time, saves on expenses such as paying for another set of benefits to additional teachers. To Jerry, however, the students are the ones who suffer in the process. Other participants voiced the barriers of trying to implement participatory and collaborative teaching-learning strategies vital to ESD in the context of teaching overload.

University Programs

The university does not offer any degree program for specialists in EE (Environmental Education) or ESD (Education for Sustainable Development). However, the graduate school offers a Masteral and a Doctoral program in Peace and Development Education which includes "Environmental Care" as one of the required courses. "Environmental Care" is offered as a 3-unit course in the EdD program which together with the other courses on development and peace provide students with background knowledge of sustainable development issues and concerns.

Another graduate course pointed out by the VPAA which deals with sustainable development is "Ethics in Government." As the title indicates, it is not totally an ESD/EE course. Its objective however, is "to train the people to be able to integrate sustainable development in government planning so that when the government employs graduates from our university, they will have a consciousness concerning SD" (Interview, SMU VPAA: 11-6-96).

The university offers the following undergraduate programs across the fields of Arts, Social Sciences, Science, Engineering, Nursing, Business and Law. Environmental perspectives have been recommended to be integrated in the General Education curriculum of the above programs as recommended in the 1989 national workshop on the development of an Environmental Education Strategy. Aside from these programs, the university has a Community College which was institutionalized in 1992. It has been designed to "facilitate community empowerment for integral human development" (SMU Information Bulletin, 1995, p.29). It offers the following short term courses which run throughout the year:

- Continuing Education for professional, career and personal development
- Community Education for Women, the unemployed and disadvantaged for making better their chances for employment
- Sponsored Programs funded and supported by certain agencies aimed at developing or improving specialized skills
- Community Involvement and Service which aims to empower the community through the efforts of the students and faculty by undertaking community surveys and research, by raising awareness of issues, etc.

(SMU Information Bulletin, 1995)

In the undergraduate level, although there are no specific programs for EE/ESD, "Peace Education" which has environmental care as one of its components is a required course in the degree programs. Likewise, "Environmental Science" is included in the BSCE (Bachelor of Science in Civil Engineering) curriculum while environment-related courses like "General Biology" are part of the BS (Bachelor of Science) curriculum. "Natural Science" is included in the BSC (Bachelor of Science in Commerce) and BSA (Bachelor of

Science in Accountancy) curricula respectively. The BSEd (Bachelor of Secondary Education) and BEEd (Bachelor of Elementary Education) programs include courses like "Earth Science" and "General Biology." The BSEd program also offers "Zoology" and "Social Science 421" which deals about among other topics, "Ecology and Human Settlements."

The College of Education also offers the Accelerated Integrated Teachers' Training for Cultural Communities (AITTCC) which is a special program for the members of indigenous communities in the Cotabato and Sulu (a province composed of small islands in the southern part of Mindanao) areas. Trained to eventually serve as teachers in their respective communities, the students in the program earn the Bachelor of Elementary Education (BEEd) or Bachelor of Secondary Education (BSEd) in 2 1/2 years. The program is funding-dependent and has gone through three phases. The objective in the first phase was to train the students to teach in indigenous communities. In the second phase, the funding provided for the training of teachers to teach in parishes where Oblates are assigned. The third phase which is being funded by the government under the Mindanao Advanced Education program is to encourage teachers to teach in outreach areas to stay at least five years. If teachers originally are from the city or poblacion (town center), they are more likely to avoid staying in the mountain areas on weekends so they go home and return to their teaching stations at the beginning of the week which actually reduces the number of school days in a week to only three. The program is an incentive for people in these communities to address the problem of very few teachers willing to teach in these far-flung villages (Interview, SMU VPAA: 11-6-96). The AITTCC program encourages people from these indigenous communities to assume leadership and responsibility for their own education and that of their own communities. It therefore, responds in part, to the promotion of people empowerment which is a necessary component of sustainable development as stipulated in Philippine Agenda 21 and Philippines 2000. Furthermore, Teresa, one of the teacher participants in this study, who teaches students in this program, mentioned that she includes activities for the development of livelihood skills for self-sufficiency. Some activities are composting, maintaining a vegetable garden and a herbal garden, and more sustainable ways of planting which promote community self-sufficiency and sustainable development. For this purpose, an area at the back of the residential hall where the students stay has been set aside to grow vegetable and herbal gardens which the students tend as part of their practicum and which provide for their food and medicinal needs.

Generally, according to the Vice President for Academic Affairs, ESD is integrated in all the courses where possible. Sustainable development covers such a very broad and wide range of topics that courses like Health Education, Economics, Sociology, among others are areas where sustainable development concepts and themes could be part of the course content. Since Values Education has been formally mandated to be integrated in the different subject areas, faculty members who have attended seminars in Peace Education have gone through the process of values mapping for this purpose. Because environmental values as part of the whole values system of the university have been included, it is expected that ESD would be integrated in their subject areas (Interview, SMU VPAA: 11-6-96). During the data-collection period however, I was informed that some of the instructors were still in the process of rewriting their syllabi to integrate ESD concepts in the courses they teach.

The Integration of Education for Sustainable Development in the Different Subject Areas

As provided for in the national environmental policies, the promotion of EE needs to be strengthened because it is a significant factor in the attainment of sustainable development. Hence, it is imperative that it becomes an essential part of the educational process. The manner of incorporating EE into the formal education system, however, varies in countries and institutions. As explained in the UNESCO publication on the 1977 Tbilisi Conference (1980),

> There is, however, no universal model for the incorporation of environmental education into educational processes. The approaches, procedures and progressive stages of integration must be laid down in the light of specific conditions, ultimate aims and educational and socio-economic structures of each country. (p.35)

In this section, I have endeavored to describe and critically analyze how ESD is integrated in the different subject areas based on an analysis of some samples of course syllabi and resource materials used by the research participants in St. Mary's University. Likewise, since I observed and participated in a few classes, a brief presentation and analysis of how each class was conducted with particular focus on the integration of ESD is also included.

Education for Sustainable Development Themes in the Course Syllabi

The content of a course syllabus does not completely indicate whether a topic or subject matter is being integrated or not. A course syllabus may list themes in its content outline but its real worth is gauged on how these are taken up or carried out in the classroom as my own experiences as an educator have affirmed. However, the course syllabus serves as a guide for both teacher and students in a class. Its significance to the whole process of integration therefore, can not be totally disregarded. The construction of the syllabus represents the preparatory phase of implementing the process of integration With this premise, I bring forth the assumption that the inclusion of ESD themes in the syllabus would be indicative of a teacher's engagement with the preparatory phase of implementation. This is further reinforced by the notion that with the inclusion of ESD themes, ESD is more likely to be integrated in the classroom because it is woven into the units of the course. In short, it is an integral part of the whole and it is inextricably linked to all the other parts that make the same whole. This concept of integration is like bringing another voice to a conversation in which it is not allowed to be swallowed up with the other voices into a univoice nor to be closed off with the other voices in their difference (Jardine, 1997). Thus, in integration, ESD themes included in the syllabus as parts related to a unit or whole, blend with the other parts but essentially retaining their distinctive character.

I have collected samples of course syllabi from the teacher participants in the study. The syllabi were analyzed according to the inclusion of ESD objectives, themes and activities. To present a more focused discussion, I have chosen to look into two samples, Peace Education and Environmental Science. The selection was purposive in that both courses address the environmental issues through different lenses.

Each syllabus gives a brief description of the course focusing on its content and goal. The goal of Peace Education is stated thus: " It strives to educate students to be sensitive to LIFE and gift of PERSON so that they are able to live in and prepared to make their contribution toward a just, comprehensive and lasting peace in our midst and our world as a whole." This goal is reflective of the vision-mission of SMU. Its emphasis on being "sensitive to LIFE and gift of PERSON" relates to the most important consideration for the attainment of sustainability (Orr, 1992; Naess,1995) and its elements of peace and justice (Toh & Floresca-Cawagas, 1987). On the other hand, Environmental Science is concerned with the study of up-to-date design and construction of structures for treatment of polluted air and waste water. Environmental Science is a required course in Engineering, hence, the focus on design and construction. From their course descriptions, the two courses differ in their ESD orientation or focus. Based on Milbrath's two paradigms of sustainability, the goal of Peace education is slanted towards the New Ecological Paradigm which emphasizes ecosystem viability and long term sustainability and responsibility. In contrast, the goal of Environmental Science shows a slant towards the Dominant Social Paradigm which puts emphasis on scientific and technological solutions to environmental problems.

The two courses also differ in their ESD content. Peace Education revolves around several themes which includes Peace and Personal fulfillment, Violence and Non-Violence, Conflict , Conflict Management and Conflict Resolution, Peace and Human Rights, Peace and Development, Peace and the Environment, among others. While all these units could be linked to ESD, the units that directly relate to it are the units of Peace and Development and Peace and the Environment. These two units show the interdisciplinary structure of the units as they cut across other themes such as development and human rights and human rights and women and women and the environment. The content of Environmental Science consists of four units: Physical and Biological Phenomena, Different Aspects of Town Planning, The Problems of Air and Water Pollution and the Design and Construction of Structures for the Treatment of Polluted Air and Waste Water. The ESD themes in Peace Education reflect the linkages of environmental problems to other aspects of development such as the political, economic, social and cultural aspects and these are explored and examined within a holistic framework. The ESD content in Environmental Science is more concentrated on the scientific and technical management of environmental problems. Its slant towards a modernization paradigm of development is gleaned on its emphasis on growth through technological advancement. Although they both deal with environmental and development issues, their orientations differ. The root of environmental problems are explored in Peace Education. Environmental Science unearths the direct causes and applies scientific and technological solutions. The units are organized as separate and independent themes.

The strategies used in Peace Education provides opportunities for dialogue, critique and creativity. While discussion is the main strategy in Environmental Science, it is silent on the kind or manner of conducting the discussions.

The two courses also differ in their course requirements and evaluative strategies. Peace Education students are expected to participate actively in discussions and to engage in critical dialogue and cooperation. Other requirements include research papers and term examinations. In Environmental Science, students are expected to pass oral and written examinations.

While the emphasis of Environmental Science on design and construction is understandable, being a science course in the Engineering program, there are possibilities for greater enrichment with the integration of social, economic and cultural issues that are linked with the problem of pollution and city planning. The use of local situations as examples is one way of stimulating interest. As well, the inclusion of the principles of sustainability could provide students with background knowledge to be able to determine the impact of new technologies, the just management of resources and the significance of values in sustainable development.

Education for Sustainable Development and Pedagogical Strategies

This section includes not only the integration of ESD themes in the subject areas but also my observations in the classroom. It is my contention that simply including SD material is not enough. Real integration shows the interweaving of ESD themes not only within the specialized content of the course but also in the dynamic elements of pedagogy and in the promotion of democratic participation in activities for students to learn and become sensitive to SD issues.

I observed four classes and served as a resource person in one class. In all four classes, sustainable development themes were taken up in relation to the subject matter of the lesson.

Course: Introduction to Nursing Research

The objective of the lesson was to demonstrate how to conduct a focus group discussion as a research methodology. Two focus groups were formed. One group looked into women's perceptions of breastfeeding while the other shared their views on the use of contraceptives. A facilitator steered the group while a note-taker recorded the points taken up in the discussion. A third group served as critics and evaluated each group in action.

The topics on breastfeeding and family planning through the use of contraceptives brought forth issues related to sustainable development. For instance, on the topic of breastfeeding, the "respondents" did not only concentrate on its effects on the health and well-being of the mother and child. They also related it to economic and social concerns like how it could help in the reduction of the family's expenses, how it saves time and how it nurtures the bonding between mother and child. .

The health focus was very relevant: "Breastfeeding brings forth healthier babies." It was pointed out that this is also dependent on the health condition of the mother who needs to know how to stay healthy. The students enumerated factors such as food (balanced diet), exercise, clean air and clean water as essential to good health. The environmental situation was integrated at this point. The need for good food, clean air, clean water zeroed in on the environment. On the issue of good food, the interrelationships involved the following: Mothers need to drink milk to stay healthy; milk comes from healthy cows; to have healthy cows, there should be rich pasture lands. Taking care of the land is therefore, the starting point on the road to good health.

Another relevant SD issue that surfaced focused on the business ethic of the TNCs that sell milk formulas and the use of plastics in bottle feeding paraphernalia, which could lead to waste management problems.

The participatory approach seemed very appropriate for this lesson. I could see that the students got the feel of using focus group discussion as a research strategy in realistic scenarios relevant to the nursing field. There was greater participation among the students .as it afforded them opportunities to present and defend their views on certain issues. Furthermore, the exchange of ideas enhanced their critical and reflective thinking skills. It also developed their ability to weigh the pros and cons, to discover relationships, to make decisions and to effectively present, explain, argue for one's views, draw inferences and make conclusions. Values and attitudes in relation to the family, a sense of responsibility, health, human life and the environment were also developed.

Course: Ethics

The "sharing" strategy as designed by the teacher, one of the participants in the research, was employed in this seemingly-unstructured lesson. At the start of the period, the instructor presented a few guidelines. The students presented a summary of their selected readings, drew themes and presented their insights. Questions were raised by the class to clarify some points.

The students presented a variety of simple themes or reflections about life such as: 'Money and Love," "Life Cycle," "Time," "Justice" and "Ants." Each theme was discussed in relation to theological thought as well as to present-day contextual realities. The theme "Time" for instance, generated a highly intense core of ideas: "time is precious and valuable," "time wasted can no longer be recovered," "opportunity knocks but once" and many more. Time indicative of past, present and future brought into the discussion the issue of the earth's resources being exhausted at an alarming rate given humankind's current consumption habits and practices. The problem of what will be left for future generations posed a moral dilemma. Should we let the future take care of itself or should we share the earth's bounty with the future generations? The present has more than enough problems of its own so the need is to focus on means to generate economic growth. Furthermore, survival is based on a hand-to-mouth existence so, thinking of the future seems to be an unlikely preoccupation. One group countered that by not reversing the trend, the situation could become irreversible. Dead rivers as a result of pollution and bald mountains due to massive and rapid deforestation brought the conclusion that failure to act immediately may jeopardize the planet and the future. Time therefore, is of the essence.

Although the discussion was not carried out in typical SD discourse, I could immediately recognize that the students' comments reflected two divergent SD paradigms: the Dominant Social Paradigm with its emphasis on technology and economic growth and the New Ecological Paradigm with its emphasis on sustainability. The theological dimension was related to biblical text through Ecclesiastes 3:1-12. The essence of this "sharing" strategy was demonstrated in its dynamics of give and take, responding and listening, contradiction and affirmation. The element of freedom fostered by this strategy seemed to work very well in the class of seminarians.

Course: Communication Arts (English)

The reading selection, "The Perils of Plastic Pollution" which served as a springboard in teaching the use of the perfect tenses of the verb integrates ESD concepts in the lesson. Taken from "Time" magazine, the article reports on the problem that plastics have posed for ocean creatures.

The reading selection dealt with the problem of plastic materials dumped into the seas. As it was a Communication Arts lesson, vocabulary words were recalled to ensure students' understanding of the selection. The class was divided into groups of three's to discuss the problems generated by plastics. An outline was written on the board for the students to follow. Within the small groups, the students were allowed to express their views in Filipino to facilitate communication. They were given a few minutes to discuss "why they should do something about plastics and what they can do to reduce waste." The small group discussions were animated and generated interest. Each group presented a summary of their discussion. There seemed to be some hesitation on the part of some students to report their discussion to the whole group. Perhaps it was daunting to face the bigger group or there was the difficulty of expressing themselves in English. Practical solutions were outlined on the board. The 3 R's, (reduce, reuse and recycle) was mentioned along with the use of substitutes (native bags made of indigenous materials in lieu of plastic bags) which can be used for a longer time and are biodegradable. Reverting to the use of refundable bottles instead of plastic cups for soft drinks and beverages was also suggested. However, candy wrappers were seen inserted between the slats of wooden chairs. This situation reflects the contradictions in the aspect of environmental care.

Course: Principles of Economics with Land Reform and Taxation

The subject matter, "Philippine Agrarian Reform" traces the development of land reform as it evolved along with different administrations. The teacher used the lecture method to present the laws, policies and corresponding implementing mechanisms as well as an analysis of various programs and the functions of agencies created for the purpose. The students had been assigned to study a handout material on the subject. The teacher used the chalkboard to emphasize significant points in his lecture while the students took down notes as they listened. After every segment, the teacher paused and threw in a question or two to check students' comprehension. ESD themes were infused in most of the topics especially on the aspect of land reform during the Marcos administration because it did not only encompass land distribution but also on aspects to help the farmer increase production. The Green Revolution program which advocated the use of high inputs ranging from high yielding varieties, inorganic fertilizers and pesticides, was analyzed based on recent findings.

Shifting to the discourse of economics, the teacher explained how the importation of commercial fertilizers would drain the country's dollar reserves and increases its dependency while falling into the debt trap. The foreign debt problem was briefly explained giving emphasis on how it becomes a burdensome legacy for future generations. The discussion also covered the problem concerning the decline in the soil's fertility resulting from the continued use of chemical fertilizers and pesticides. Moreover, the effect of these chemicals on the environment and all life forms on the state of health and well-being of human beings, birds and useful insects posed a big challenge on the overall effectiveness of the agricultural program.

The lack of time did not allow for evaluation which was planned in the form of a quiz. The teacher explained that since it was almost the end of the term and there were still some topics to be covered, the time constraint has made him decide to use the lecture method. He had been using participatory strategies but this had taken so much of the time that some topics in the syllabus have not been covered with only a few meetings left. Hence, the whole period was devoted to a discussion of the topics on Philippine agrarian reform which was quite a long one. Although the students were attentive and could be actively listening, the opportunity to develop skills in democratic participation and sharing was also limited which could also be attributed to the time constraint.

Course: H.E. (Home Economics) and Practical Arts with Livelihood Education

As a resource person, I chose to discuss the concept of sustainable development by explaining its dimensions. After giving a brief orientation on the meaning of sustainability and development, I shifted to an open forum format to allow the students to participate more actively in the discussion. There were a variety of questions that revolved around the concept of development with special focus on herbal medicine as it was the main topic for that day. Their questions dealt on topics like the TNCs, agribusiness and pharmaceutical companies. How these affect the lives of the people became the subject of analysis. The students were quick to point out the dwindling food supply and the effects of certain projects to people's health. It was presented that some forest trees are used for medicinal purposes. When the problem of forest denudation was presented, some of the students described their experiences with floods. It was concluded that it is usually the poor who suffer the consequences of forest denudation.

The students were enthusiastic to know the ecological problems encountered by an industrialized country like Canada When I pointed to the massive pollution of many areas, the students could easily conclude that technology is the answer but could also be the cause of many problems like pollution. The students could only go as far as critically analyzing the problems that were presented as the limited time did not allow us to discuss more broadly, ways of addressing the issues. However, given the situation, the stimulation and serious consideration of problems that affect them were sufficient to bring about some dimensions of sustainable development.

THE IMPLEMENTATION OF ESD AT SOUTH PLAINS STATE COLLEGE

Education for Sustainable Development Policies and South Plains State College's Vision-Mission

Like St. Mary's University, South Plains State College does not have a formal institutional policy statement specifically directed on the teaching of ESD but like all other higher education institutions it is covered by the provisions of the Philippine Environmental Code of 1977 and the National Strategy on Environmental Education which mandate the strengthening of EE. Nevertheless, with its quite rapid development and expansion (considering that it is a young institution) as evidenced by the increase in the number of its curricular offerings and correspondingly, the school population, I will show through the Vision-Mission Statements of 1991 and 1996 how SPSC has shifted in its vision and goals to include aspects of sustainable development.

From its 1991 Annual Report, SPSC's mission and goal read thus:

> GOAL:
> The mission of South Plains State College is to develop a strong and appropriately trained manpower possessing capabilities supportive to regional and national development.

> MISSION:
> The college shall primarily provide professional advanced academic, technical and vocational training in agricultural, fisheries, forestry and industrial technologies; promote research, advanced studies and progressive leadership in its fields of specialization; provide scholarships and part-time job opportunities to poor but deserving students; offer, develop and promote short-time vocational and technical courses and strengthen the College Laboratory High School Program. (SPSC Annual Report, 1991)

A close examination of the mission and the goals reveals the institution's emphasis on the development of manpower skills and capabilities to promote regional and national development. A vocational-technical institution, SPSC initially offered programs in agriculture, forestry, fisheries, industrial education and industrial technology to respond to the manpower needs of Central Mindanao. Although the programs are focused on the environment, the goal was slanted towards the development of skills in the particular disciplines for gainful employment. The major concern therefore, was not the development of environmental awareness but on the development of skills that would ensure the marketability of its graduates.

With environmental issues intertwined in the nation's development thrusts, SPSC designed its long-term development plan covering the period 1994-2018 with the following objectives:

> Objectives for the Plan Period
> In support of the regional development thrusts of the attainment of greater economic productivity and sustainable growth; alleviation of poverty, equitable distribution of social amenities and economic opportunities, and optimum utilization of existing natural resources, the South Plains State College shall aim at improving the quality of instruction, intensifying research and development and outreach activities, insuring efficient and effective institutional management and preserving, developing and propagating desirable Filipino values as well as heritage, culture and sports. (The Twenty-five Year Development Plan of SPSC, 1994)

Focusing on these objectives, the Vision-Mission had been reformulated thus:

> VISION:
> SPSC shall be a leading educational university for professional, academic and technological excellence in agriculture, education and industry that will develop individuals for community leadership and community progress, for economic productivity and sufficiency, and for socio-cultural integration and improvement, not only in Region 12 and the ARMM (Autonomous Region of Muslim Mindanao) but the EAGA regions as well.

> MISSION
> SPSC aims for the development of potentials of individuals as God-fearing, literate and enlightened citizens and leaders who are creative, proactive, responsible, economically self-reliant and productive, service-oriented, technologically skilled in agri-industrial, vocational and technical competencies, and ecologically-oriented user, conserver and preserver. (Interview, SPSC VPAA, 10-9-96)

Likewise, a set of core values and competencies has been identified:

CORE VALUES

- Institutional transformation to University status
- Literate and morally enlightened citizens
- Professional/Academic/ Technological excellence and skill development for employment and community leadership
- High economic productivity and sustainable economic growth
- Community development through people's employable gains for improved quality of life

CORE COMPETENCIES

- Educational Preparation, Immersion and Growth through Instruction
- Innovations, Inventions, discoveries through Research
- Technology Transfer, Community Outreach Services , and Wise Utilization of and Conservation of Ecology through Extension
- Sustained Institutional Economic Benefit through Production

(This information was also taken from a lecture-handout material given by the VPAA of SPSC during my interview with her.)

An analysis of the institution's "Objectives for the Plan Period" in its long-term development plan clearly points to the focusing of instruction, research and extension and production which are the institution's major functions, towards the attainment of the region's development goals. I noted that the emphasis is on the regional development thrusts of attaining "greater economic productivity and sustainable economic growth" which is interestingly followed by "alleviation of poverty" and "equitable distribution of social amenities and economic opportunities." Relating these objectives to the two pathways of sustainability as identified by Turner (cited in Fien & Trainer, 1993), it is clear that they follow the "technological approach to sustainability" or the "sustainable growth mode." This is also reflective of the Dominant Social Paradigm of development which puts so much emphasis on economic growth (Milbrath, 1995). More specifically, they correspond to the "growth with equity" position which is one of the identified four positions of environmental functionalists. This position stresses the need for economic growth as a means of solving "inequalities of wealth and state of well-being" (Fien & Trainer, 1993, p.33). While advocates of this position recognize the relationship between poverty and environmental problems, critics claim that its weakness lies in its failure to address the root causes of unsustainability.

In its Long Term Development Plan, the institution's concern for the less privileged is shown in its target statement for the improvement of the quality of instruction:

> The College caters to the socio-economically deprived students of Cotabato City as well as from the nearby municipalities of Maguindanao and Cotabato provinces. For this, the college is seen as an equalizing instrument of the society. While the college provides educational opportunities to this particular group of students, it is duty bound to provide them quality education and training in order that they shall be adequately prepared and very competitive in the job markets and entrepreneurial pursuits. (SPSC Twenty-Year Development Plan, 1994)

While these attempts to help the socio-economically deprived gain access to higher education are consistent with sustainable development goals, limited government funding has driven the objective of providing an improved quality of education to remain an unfulfilled aspiration. With its fast growing population and the need for additional programs, the institution's infrastructure can not adequately cope with the increasing demands. Although it was able to acquire an eight-hectare area in Barangay Kappia, Sultan Kudarat in Maguindanao for the laboratory/practicum needs of the College of Agriculture, Forestry and Fisheries, this site needs buildings, facilities and resources. The two-walled unfinished rooms being utilized for lectures, the temporary wooden benches and a blackboard that has evidently seen better days beg greater attention and serious consideration to bring an assurance of "quality education." Likewise, the physical plant in the main campus needs more upgrading to bring about an "improved quality of education."

On the other hand, the Mission statement encompasses several aspects in the development of the individual. This is focused on the development of qualities that will enable him/her to contribute to the community. It brings an ecological dimension to the aims of the institution.

The set of core values likewise reflects the long-term plan's goals of "economic productivity and sustainable economic growth" and while it also includes "literate and morally enlightened citizens" which may be argued as a means to regulate possible excesses in the pursuit of economic goals, it likewise, represents the sustainable growth approach to sustainability and naturally, carries the limitations previously mentioned. Furthermore, the emphasis on economic growth which is likely to cause a drain on the resources poses a contradiction with the institution's mission of developing individuals to become ecologically-oriented users, conservers and preservers.

Academic Programs

Although SPSC does not offer any program for specialists on EE/ ESD, it offers degree and non-degree programs in Agriculture, Fisheries and Forestry which could be considered very close to a specialist program on the environment. It offers major undergraduate degree and non-degree programs in fields including agriculture, agricultural technology, fishery and forestry. These programs essentially focus on the study of resources like land, water and forests. Hence, spaces for Environmental Education (EE) or ESD in theory, can be built into the courses that constitute these programs. The VPAA alluded to this when she clarified the inclusion of Environmental Science in the Arts and Sciences for that year but not in the three disciplines of Agriculture, Forestry and Fisheries: "So, it's only this year that we have included Environmental Science. But well, I could say that in Forestry, Agriculture, Fisheries... it has been a part of the subjects." (Interview, SPSC VPAA: 10-9-96). In yet another portion of the interview, she reiterated her explanation: "So, we don't have problems with Agriculture, Fisheries and Forestry. They are so abundant in environmental concerns for their courses. It's not a problem." (Interview, SPSC VPAA: 10-9-96).

Indeed, these three areas are perceived to bring about environmental issues in the courses or subjects constituting their curricula. When I reviewed the content of a representative sample of their syllabi however, I could see that it still catered to the Environmental Education of the '70s which dealt mostly with technical aspects (DENR-DECS, March 1992).

Aside from the programs in the three disciplines mentioned above, the College also offers programs in industrial education, industrial technology, civil engineering, commerce, cooperative development, Islamic Studies, Arts, architectural drafting, food technology and electrical technology.

As previously mentioned, Environmental Science has been added as a required subject in the Arts and Science courses which they began to offer that year. The VPAA noted the importance of environmental preservation.

> *That's why when we offered the Arts and Sciences this school year, I really included Environmental Science as a required course in all the courses including Cooperative Development. Everyone is required to take up Environmental Science because our students should not just be aware. They should get involved in preserving our environment.* (Interview, SPSC VPAA: 10-9-96)

Likewise, the subjects constituting the curriculum of each of these programs offer opportunities for the integration of ESD concepts and themes. For instance, the Bachelor of Science in Industrial Education (BSIE) program which is designed to prepare technical and vocational teachers in Food Trades and Industrial Arts has plenty of possibilities to link the environmental situation in the two major areas. An awareness of the environmental situation is expected to be developed alongside the development of technical and pedagogical skills. Food preservation and processing inevitably brings forth environment and development issues since a discussion about food naturally includes topics about resources like land and trees, rivers and fish. Hence, environmental problems are included in the discussion as well as their causes. Such an understanding of the root causes of environmental degradation and its consequences could bring about a radical shift in people's views about development and how it can be made sustainable. It is important therefore, to underscore the fact that the possibilities for the integration of ESD into the various programs could just be rendered futile if the concept is not fully understood. Or if the causes are not deeply and critically analyzed, the solutions that would naturally emerge would be superficial and may fall into the trap of appearing to address the issues but is actually obliterating the realities that surround them.

The Integration of ESD in the Different Subject Areas

As in St. Mary's University, I collected samples of the teachers' course syllabi and observed two classes in South Plains State College. An analysis was made of the ESD themes in the course syllabi. Likewise, I also looked into the ESD content of a few books and materials in the SPSC library.

ESD in the Course Syllabi

An analysis of the ESD content of the course syllabi in the different subject areas revealed that most of the courses in themselves deal with the environment. The topics in the course outlines, however, do not reflect the linkages between environmental issues and the political, social, cultural and economic aspects of development. The presentation of the themes and concepts have not gone beyond the environmental education modes of the '70s where the issues are taken up divorced from the contextual realities.

Education for Sustainable Development and Pedagogical Strategies

Since it was towards the end of the term, the teachers and students were very busy with many activities like Intramurals, the Foundation Anniversary celebration, educational trips and others. Hence, I was able to observe only two classes at South Plains State College.

Course: Food Microbiology

The teacher presented the problem of food, its scarcity in a rapidly growing population to establish the importance of food preservation, the subject matter of the day's lesson. The presentation of real-life problems motivated the students to think of possible solutions. A diagram was also utilized to make the points clearer and easier to comprehend. As the teacher gave her lecture, the students took down notes. Occasionally, she checked for comprehension by asking a question or two.

ESD concepts were infused in most of the aspects of the lesson. To explain the importance of developing food preservation skills, the teacher traced its economic, social, ecological and health aspects. The economic focus revolved around the means of earning a livelihood through food processing thus augmenting the family income. Other points included the prevention of wastage hence, of garbage, and the opportunity to share resources. The teacher also included problems that come up in the handling of food in her lecture. The presence of microorganisms in the air, water and soil may result in contamination which may affect people's health.

The idea of entrepreneurship which was presented is in line with the institution's objective of supporting regional development goals of greater economic productivity and sustainable growth (The Twenty-five Year Development Plan of SPSC, 1994). The teacher explained that non-working mothers could make use of their time by working as a group, establish a cooperative and learn various ways of preserving different kinds of food to generate income to meet their family's other needs. Throughout the lesson, the students added to the discussion by relating their own experiences such as making fruit jellies, jam or pickles. The lesson provided the preparatory phase for the students' practicum in food preservation.

Course: English

The main activity was focused on making group presentations. The teacher explained the procedure to be followed in their presentations. She set the time limit for each group and announced that each group will be evaluated by the whole class. She called on the leader of each group to convene his/her group to make the final preparations and to draw a number that will indicate their turn in the order of presentation.

The topics chosen by the groups included crime, abortion, working students and others. Talk shows and panel discussions were chosen as the modes of presentation. Leaders introduced their group members and facilitated in the discussion. For instance, in the group that discussed the topic on crime, the students brought out insights on the causes and effects of crime. They started with the nature of crime, discussed the causes and effects and recommended ways to minimize its incidence r eradicate it. The topic on abortion was related to rapid population growth. In a debate-like fashion the members shared their views about abortion.

While the issues of crime and abortion are connected to development themes, an environmental focus did not surface in the discussion. However, expansion of the topics through critical analysis could have offered spaces towards environment and development issues. The activity also carried possibilities for a deeper discussion of the moral dilemmas pervading these issues taking into consideration the prevailing contextual realities. The topics chosen for discussion are potential entry points for the infusion of more ESD themes. The use of group discussions as a strategy provided opportunities for developing sharing and cooperation.

Other ESD Initiatives

In the course of my conversations with the teachers and my observation and participation of some events during my sojourn in Cotabato, I became acutely aware of the relevance and importance of links between the two universities and the wider community and societal sectors. These links fostered initiatives and activities that help to enhance the ESD efforts of the teachers.

A major and influential unit in SMU, for example is the Peace Education Center which, as often mentioned by the participants in the conversations, has catalyzed and complemented ESD at SMU. The Center's inclusion of environmental care as a key theme within a holistic peace education framework, the hosting of the active environmental NGO, Kalinisan, and the collaboration with local government agencies and private entities in integrated sustainable area development projects have done much for community-based ESD. Likewise, the Community College of SMU has organized projects on female functional literacy and community and information planning systems with a strong focus on environmental literacy and action. Some student organizations at SMU have also played a constructive role in promoting environmental awareness and protection activities.

At SPSC, parallel albeit more limited community-based initiatives have also contributed to the institution's ESD efforts. Exemplars include education of community citizens on possible environmental problems of new development projects; ESD symposia in cooperation with DENR; and extension services to help communities in agriculture, forestry and fisheries.

A detailed account of these community/society based linked ESD initiatives in the two institutions is presented in Appendix A. Likewise, a description of the ESD curricular materials, research activities and student organizations, is also included.

Education for Sustainable Development in the Two Institutions

Based on my field observation notes and an analysis of the documents and textual materials like course syllabi, resource materials, text of interviews made with administrators, student leaders and representatives from other sectors like the church, media and NGOs linked to the two institutions, I drew some interesting insights on the implementation of EE/ESD.

The goals of both institutions as expressed in their Vision-Mission focus on producing graduates who can contribute to the development efforts of the country. SMU sets its targets on the realization of human potential while SPSC emphasizes the development of skills to meet the manpower needs of the country. This could be attributed to the orientation of the two institutions, SMU with its strong Catholic background and SPSC built along the framework of the state system.

With the presence of a Peace Education Center and a graduate program in Peace and Development Education, the implementation of EE/ESD in SMU is well on its projected course (Please see Appendix A). Teachers who have attended the Peace Education seminars offered at the university tended to be more abreast of current sustainable development issues. They demonstrated a considerable shift in their paradigms of development. As expressed by the teachers themselves, more is needed to be done so they can be fully empowered to integrate ESD in their subject areas. They clamor for stronger administrative support in their professional development. The inclusion of ESD themes and concepts in some of the course syllabi is indicative of the interest and efforts of some faculties to revise their course outlines and refocus it towards the infusion of ESD. While the inclusion of ESD themes [illegible] the syllabus does not guarantee its integration in the classroom, it nevertheless indicates that a significant step has been undertaken by the teacher teaching the course. It may be logical to assume likewise, that because the ESD themes are in place, it is more likely that these are included in the day to day lesson. Likewise, as also suggested, a formal university policy would encourage the different faculties to sit down and work for a more holistic integration of EE/ESD in their course syllabi.

Based on my class observations in SMU, the infusion of ESD themes/concepts was quite impressive. The use of participatory strategies showed the teachers' grasp of how they can be effectively employed. Although it could be claimed that since the visits to the classrooms were requested, the teachers prepared for their classes. Hence, they were not reflective of the day to day routine and would be very superficial. It still stands that since the integration was done successfully, then it can be replicated and strengthened. The general climate in the institution such as the initiatives towards the peace process and the participation of administrators, teachers, staff and students in environmental projects do contribute to the formation of attitudes and values reflective of ESD.

The faculty members of SPSC, on the other hand, being the younger institution, needs time to revise their course syllabi. As expressed by the teacher participants in the study, they need to attend seminars and workshops or undergo training to be able to effectively implement ESD. They need strong administrative support as well. This is necessary because the integration of ESD concepts requires the practitioners to undergo a paradigm shift. This can not be realized overnight. It needs to be an ongoing process of transformation. Likewise, three of them subtly expressed the need to explore alternative pedagogical strategies which may make learning more meaningful and enjoyable on the part of the students.

The role of student organizations in the promotion of ESD should not be overlooked. It was very evident that student organizations in SMU have actively pursued ESD goals. UNESCO and STAPCOM have centrally focused their objectives towards environmental care and protection. On the other hand, although SPSC has tapped the student organizations in their Clean-up drives and have sent student leaders for training more teacher and administrative support could encourage the students to plan and participate in more practical ESD activities (See Appendix A).

Facilities and resources are strong factors in the successful implementation of an educational thrust or program. The facilities of SMU are considerably more in keeping with the demands of a higher education institution. On the other hand, SPSC's needs like the improvement of its physical plant and laboratory site, calls for serious consideration and attention.

SMU has established linkages with the other sectors in the community. The linkages among the structures within the institution however, need to be more clearly defined and strengthened to ensure a more smooth flow of resources and communication. On the other hand, the Twenty-Year Development Plan of SPSC indicates the establishment of linkages with government agencies notably the Department of Agriculture and the Department of Environment and Natural Resources in its projects and programs. When and how these will materialize is yet to be looked into. In terms of paradigms, SMU shows its slant (although not fully) towards the New Ecological Paradigm. SPSC is still more in tune with the Dominant Social Paradigm. A paradigm shift is necessary to bring about a process of transformation in ways of viewing and implementing ESD.(See Appendix A)

The implementation of EE/ESD in the two institutions while still in its development stage indicates great promise with teachers who have manifested dedication and expressed such a strong faith in education as an instrument of societal transformation.

Reflections

The implementation of ESD in the two institutions involved in the study shows ESD in its developing stages. Gradual but constant shifts are reflected in the goals, programs, projects and activities of the institutions. Along with these changes, the teachers perspectives and understandings have been evolving in response to the unfolding of national and local events that impact not only on their personal and professional lives but in the wider community as well.

The teachers' understandings of ESD is reflected in their integration of ESD themes in their course syllabi and in their pedagogy. In our reflections of what ESD means to us as educators, we have come to recognize the dilemmas that surfaced in the implementation of ESD. The dilemmas that emerged revolved around how to meaningfully and effectively implement ESD in the classroom, within the educational institution and in the wider community.. This is expressed in the voices of teachers whose experiences with the contradictions built around beautifully worded documents, thrusts, programs and slogans have tended to cloud the real issue of implementation. Cosmetic solutions to many educational issues in the past have resulted in a perceived stagnation and deterioration of education. Likewise, with modernization embedded in the current concept of development, the direction of education has likewise, been veering towards the same trend. An exploration of the meaning of development based on the lived experiences of teachers provides illumination into the role of education in the attainment of sustainable development. This understanding of education likewise, brings a clearer vision on the practice of ESD not only within the system itself but also in the wider community. More importantly, a recognition of the dilemmas in the implementation of ESD helps to bring a clearer understanding of themselves as ESD educators: how ESD becomes a part of their personal and professional lives and how it is reflected in their everyday struggles and endeavors.

From another perspective, the Vision-Mission of institutions may express ideal aspirations for transformation but it may retain or nurture structures that obstruct the struggle for transformation. The Christian ideals of SMU brings about the valuing of life and the promotion of peace and justice. SMU's role in the development of a peace framework for the Mindanao region could be seen as a manifestation of its sincerity and dedication towards the attainment of peace. The establishment of the Peace Education Center and the many activities and services it offers to its clientele, its linkage with other agencies and organizations in the pursuit of finding solutions to issues of sustainable development (see Appendix A) all point to the efforts of SMU to translate ESD into a reality. The projects of the Community College, (see Appendix A) the programs designed to uplift the lives of the marginalized and deprived are seen as the fulfillment of the institution's mission to bring improvement to community life. But a contradiction is traced in the economic situations of teachers who have to bear the brunt of taking overloads to cope with the rising cost of living. And unfortunately, this contradiction that confronts teachers penetrates into the students who will soon fill strategic positions in society. The cycle is not broken as this contradiction remains.

Another contradiction could be traced to the notion of ecological responsibility. The teachers' voices echoed the need for a clean and healthful environment. The "clean and green" slogans, the posters that loudly proclaim the need for clean surroundings, the cleanliness campaigns have not in Jerry's words, filtered into the people's subconscious. Why this difficulty of keeping the environment clean? The plastic wrappers, cups and the litter still mar SMU's green surroundings. The contradictions between teachers' understanding of ESD and how it is being implemented is quite visible in this seemingly trivial problem of maintaining cleanliness in the surroundings. The bigger environmental issues would therefore, also reflect this gap.

The dilemma built around the practice of ESD could be markedly traced in SPSC, as part of the state system. In need of infrastructure, SPSC with its burgeoning enrolment needs more and better equipped buildings. The vision-mission remains to be a vision as the needs which are not being met, grow and become more complex. The needs of the laboratory site should be addressed to make it truly functional. While the efforts of the faculty to address situations that hamper the realization of their objectives are commendable, government attention is necessary to address the bigger problems. Faculty development may also help in deepening and broadening teachers' understanding of "development." The teachers have expressed their clamor for opportunities to grow professionally so they can be more effective in their teaching.

The contradiction between the teachers' concept of ESD and its implementation in their institutions is very evident in the solutions to ecological issues like the garbage problem in SPSC. The piles of garbage being burned at one time behind one of their buildings indicate the need for a better way of waste management. It is a paradox that the college has a college of forestry and agriculture but the school site sadly does not bear the colleges' potential in terms of landscaping nor of trees and gardens. The opportunities for becoming a "clean and green" model institution are lost considering its pool of expertise and talent in terms of faculty and student capabilities by ignoring this seemingly trivial environmental problem.

A concern in the aspect of resource materials was voiced by one of the participants in SMU. Going through the libraries of both institutions reveals this lack of a Filipino setting in textbooks which poses the question of relevance of SD issues to the students' lives. The vision-mission of SMU brings in this element of Filipinism. However, the cause of this contradiction could be traced to the legal structures concerning publications and textbooks. With provisions for the reprinting of foreign texts, the motivations for aspiring Filipino textbook writers are dampened.

Some flaws could also be traced in the coordination of agencies in the implementation of ESD. ESD projects or programs could be better implemented when there is synchronization and coordination among agencies. A closer relationship could be developed and maintained between the schools, government agencies and NGOs for a more successful implementation of ESD programs.

While the dilemmas reflecting the participants' understandings and the practice of ESD in the two institutions remained, they nevertheless, opened to a world of greater possibilities for educators.

CHAPTER SEVEN

TOWARDS AN EDUCATION FOR SUSTAINABLE DEVELOPMENT: WHAT ARE THE INSTITUTIONAL POSSIBILITIES?

Ripples in a Placid Pond

Just as a pebble thrown into a placid pond creates ripples, so has the "question," "What does education for sustainable development mean?" brought disturbing currents in this research journey. The question, which was nurtured from those years of my youth in my home country, the Philippines, and which I carried over to Canada, where I relocated some years ago, was brought back to where it originated seeking an answer. As I journeyed back to my homeland, the all too familiar sounds and sights signified that I was home. Coming from the North with its wealth and comforts to the harsh realities of my homeland in the South reminded me of the discontinuities, the paradoxes and the contradictions that we encounter in our daily lives. It was the question that I carried along, the pebble that I have thrown into the placid pond.

It was a cloudless day yet, hovering over the big city was a blanket of smog as the heavy traffic grunted in its snail's pace. A sea of humanity crossed at the intersection. It was home. Although the skyline was blocked by towering buildings and the icons of modernization, it did not take a breath to link me to my roots.

Going to the research site filled me with excitement and anticipation. It was my first visit to the South though it seemed I had been there a long time ago. Meeting with my co-research participants and sharing with them my research plan was an uplifting experience. Their willingness to participate in spite of their heavy schedules overwhelmed me. The peaceful and serene atmosphere of Saint Mary's University seemed to make it a most appropriate setting for my research. Cotabato City, in spite of the horrible stories I have heard in the north, exuded a peacefulness that somehow could not be explained.

As I surveyed the place, I was told of the massive denudation of their forests, the pollution of their rivers and lakes and the flash floods they have encountered. Yet I stood in awe at the giant trees with their massive trunks that remained. I tried to imagine how majestic the mountains had been with their thick forests and crystal clear streams. With dying rivers and balding mountains, what is there left for the coming generations? They will never know the inner joy of communing with nature. The realization drove me back to my question and my research.

My co-researchers seemed to share the same passion for the environment and to me it was a very good starting point. I met with them individually to present my research plan and reiterated the invitation to join me in this research journey. What touched me most, as it was beyond my expectations, was the expression of gratitude by some of them. They indicated that their participation would broaden their understanding of education for sustainable development (ESD) and how it could relate to what they do in their schools. A few initially harbored some reservations, but they eventually viewed it in a positive light in that it was an opportunity for them to learn more about it. More significantly, early on in our conversations, the show of deep concern that I might run into problems later on as we trod on what was regarded as highly-charged ground, signalled the familiar fears, doubts and uncertainties that in reality, actually animate our lived experiences as educators. While it sounded like a caveat, it nevertheless, exemplified an opening through which we could keep the conversation going. It reminded me of Smith's (1994) advice to students of hermeneutics to "be mindful that their interpretations could lead them into trouble with authorities" (p.100).

As we came to know one another, we began to get the "feel" of the research. Engaging in hermeneutic conversations as a mode of inquiry seemed to be a novel idea. It seemed to take away the tensions that often accompany structured modes of inquiry. Even with the presence of my tape recorder, the growing familiarity and budding friendships seemed to ease what could be barriers to communication. I tried to keep up with the events unfolding in the region in order to bring the topics closer to home. I always tried to bear in mind the priority of the question, the object of the research which directs the conversation (Gadamer, 1988, p.325). It led us to various terrains as we brought to language our own experiences. We related our stories, expressed our disappointments and dilemmas but at the same time, articulated our inner hopes and dreams. Through the process of conversation, we kept the ESD story rolling. Each encounter seemed to leave us with a new reading, another way of looking at ESD in the light of what we already thought or understood it to be. And with each new understanding, correspondingly, I viewed my being an ESD educator also in a new way.

Aside from the conversations, I also conducted interviews with the heads of NGOs and student leaders. The experience was just as meaningful and enlightening. Amidst all these, I realized the paradoxes, the contradictions and the discontinuities in the narratives. We talked about the plight of the indigenous people, the rural-urban divide, the TNCs, the peasants and the fisherfolk... the stories seemed endless. We reflected as we listened to our voices and to others' voices. We recognized ourselves in the stories and in the other voices.

As I mingled with my fellow Filipinos with diverse cultural, social and economic backgrounds and perspectives, I discovered the richness of the Filipino mosaic in Mindanao. At St. Mary's University, the sight of Christians, Lumads and Muslims harmoniously intermingling within this Catholic institution visibly portrayed its unique character as a beautiful expression of the tapestry of humanity which builds its strength on the recognition of its power to transcend the boundaries of human existence. The political rumblings generated by the ARMM (Autonomous Region of Muslim Mindanao) elections and the SPCPD (Southern Philippines Council for Peace and Development) blur just seemed too far away. Yet, as I recalled my childhood experiences, the images of the "moros" in a celebrated war with the Christians brought to life in the unchanging plot of the "comedia" that graced the stage on such occasions as the city fiesta, compelled me to pause for a moment of deep reflection. Although I felt I have dealt with this socio-cultural construct in the past as a former teacher of Philippine literature, my being a part of this reality in my peaceful encounter with my Christian and Muslim co-researchers generated a whole new story of Muslim-Christian relations.

My co-participants at South Plains State College exhibited the same enthusiasm in getting involved in the research. Having taught in a state university for years, I thought I knew the institution's moods and rhythms. It seemed that their concerns were my concerns as the stories were woven in the same thread. I visited their Laboratory site, attended their Foundation Day event, exchanged notes with them. We talked about the fate of Mt. Apo, the undisturbed coral reefs in Lanao, the students' trip to the breeding stations and demonstration farms. Yet, in all of these, I came to realize that there was still too much to read to learn and to learn to read from the narratives.

After five months of hopping between SMU and SSPC, the research encounter came to a significant turning point. In my reflections, I came to realize that I gained so much from the experience. The images, the voices, the shadows, the silences. The Philippine reality seemed to be a reality I thought I always knew but somewhere in Mindanao, along the busy streets of Cotabato City, I learned to recognize something new and different amidst the daily grind and its monotony. I learned to fill the void in the empty spaces and to see violence hidden in the sugar-coated rhetoric of peace, justice and compassion. I learned to listen to the muted cries of indigenous tribes displaced from their ancestral lands, being echoed from the barren mountains to eroded valleys, hills and plains. I learned to grieve the eerie silence of the rivers and lakes choked to death by hazardous pollutants and toxic wastes. And from the desolate nooks of the hinterlands to the grim monstrosity of the slums, my eyes caught the gaze of poverty - piercing, probing and deeply penetrating. The research question, at every twist and twirl and turn generated a story, sometimes an episode to the bigger story because the events and the characters bore a kind of interconnectedness, a kinship that could be traced to our being part of the grand setting which is the Earth. It was in the recognition of this link that set the ground for the interweaving of what ESD meant for us as tertiary educators.

> *Staring back at the placid pond, I saw the ripples had burst into concentric circles playfully distorting the reflected images of the trees, the clouds and the sky. My silhouette too, got bleary as it swayed unsteadily with the swirling current. A drift of turbulence swept the placid pond.*

The Research Question Revisited

The question "What does education for sustainable development mean?" is the object of this inquiry which I, as a Filipino researcher, coming from Canada, a North country, attempted to explore with thirteen teachers from two higher education institutions in Southern Philippines through a series of hermeneutic conversations. An inchoate quest, it finds its incipient traces in my younger days when the taken-for-granted rhythms and patterns of day-to-day existence brought forth an awareness of the intricate web of complexities that are interwoven in my relationship with the environment. In those years, the environment held a disturbing fascination for me. It was something familiar yet strange, awesome but exuded a tragic flaw. It constituted an awakening which would now and then open up to deeper realms of reflection and probing and although at times, it would be suspended and temporarily buried under the doldrums and contingencies of everyday life, the desire to further explore its tones and nuances somehow always lingered and managed to pop out as it collided with events that tended to rupture its seemingly secured walls of silence.

Throughout my years in college, I would occasionally return to the "question" about the environment when ecological disasters like floods and earthquakes would hit the islands that comprise the Philippines. Although radio, television and the print media would make an extensive coverage of the event, there seemed to be a missing link, a kind of discontinuity amidst the outpouring of charity and expressions of sympathy for the suffering victims. In Manila, where I had my first years of teaching, an awareness of the plight of the poor which became very visibly marked in those trying times of ecological disaster, led me to think about the relevance of what we were teaching in our schools. I found it ironic that although, in many instances, the occurrence of floods and typhoons caused the suspension of classes, there did not seem to be a connection between what was happening and what we were doing in our schools. The disasters seemed to be regarded as happening on the "outside" and although occasionally, there were remarks from the media and officialdom about the clogged "esteros" or river estuaries as being the cause of floods, such comments did not stimulate a critical impact that could mobilize the citizenry into action. Neither did the frequent brownouts or power outages during the summer months lead to a determined effort to restore the water levels necessary to generate hydroelectric power by calling attention to the situation of the watersheds.

As significant episodes in Philippine history gradually unfolded in the decades of the '70s and '80s, the "question" of environmental degradation became more recurrent. It soon expanded to encompass issues related to the rich-poor gap, a challenge which reverberated from the ranks of fiery student activists during the Marcos regime. The deteriorating economic situation and the social unrest eclipsed all other issues and although the environmental cause has finally gained recognition in official legislation and environmental education was introduced in the schools, the pace and course these took could not catch up with the rapid environmental decline. Thus, the environmental dilemma took a backseat while modernization strategies like the Green Revolution program, were launched to spur economic growth and alleviate poverty. Science and technology provided the answers to the economic problems besetting the country. But while the fertilizers and pesticides gained acclaim in increasing the agricultural yield, floods and typhoons washed away rice paddies destroying farmers' crops and the land. Later, to my dismay, as a science teacher, I realized that insects like butterflies, grasshoppers and dragonflies which used to swarm gardens and rice and corn fields could scarcely be found, making observational study difficult to carry out. Thus, in my reading of the official discourses, the environment constituted a story that stood apart from the narrative of development. The political upheaval in the mid-'80s which culminated in the people's triumph at EDSA (the People Power revolution site) became a most celebrated event in the annals of Philippine history and regrettably, its environmental underpinnings were condemned to the gutters of forgetting, denial and ignoring.

The environmental question however, was, for me, not to be permanently buried. With the exodus of Filipinos seeking greener pastures in other lands, I soon found myself joining the queue. The seeds of discontent growing in the university where I had been teaching for years added more fire to the "question's" educational dimension. In my decision to relocate to Canada, I held the conviction that the move opened for me a whole new world of possibilities and opportunities. Unconsciously, I carried the "question" to this new setting. Coping with the realities of adjusting to a new place however, temporarily shelved the "question." It nonetheless, resurfaced unceremoniously as I got into the graduate program in International/Intercultural Education. My coursework brought me back to the "question" which has assumed a different form. This "question" which took a different turn at every crossroad retained its roots. It is a question which has persisted through time and begged to be answered. It was gratifying to learn that in recent years, the environmental issue has been vigorously pursued by nongovernmental organizations (NGOs) and people's organizations (POs) in the Philippines. This gave impetus to my research plan. This research opportunity allowed me to pursue this quest, to make sense of, to explore with my fellow Filipino educators in the Philippines what education for sustainable development means to us. It was an interest that we soon got to finally share in the spirit of collaboration and dialogue as we engaged in this meaning-making exploration through hermeneutic conversations.

> *It began when I stared at the placid pond and its stillness bothered me. The silence penetrated with a coldness that seemed to devoid it of life. I felt a compelling urge to awaken it from its deep slumber that it may reveal its hidden mystery. I picked up a pebble and threw it into the placid pond.*

The Research Context

Research on sustainable development has been pursued using the mushrooming body of literature on sustainable development which fills many libraries and websites. Although as has been stated in earlier chapters, the term "sustainable development" is fairly new, the concept has been traced to early civilizations (Ponting as cited in Samson, 1995). For the past two decades, sustainable development has graced government and business circles and international fora. But again as the literature suggests, in spite of the many definitions that have been presented, what sustainable development means remains as ambiguous as ever.

Indeed, sustainable development is a term laden with contradictions. The etymology of the word "sustainable" is traced to the Latin *sus tenere* which means "to uphold." This could be taken positively to mean supporting a desired goal or negatively to connote enduring an undesirable condition (Redclift, 1993). Others think that "development" as is ordinarily understood to be equated with economic growth is inherently unsustainable (Mele, 1995; Ophuls, 1996). Munro (1996) thinks that sustainable development is a vital and valid concept but its operational definition is not clear. The WCED definition as "development that meets the needs of the present without compromising the ability of future generations to meet their needs," has been adopted by many countries. Some writers have critiqued it however, in that the flexibility of the word "needs" makes it inoperable (Pezzey, 1992; Norgaard, 1994; Baldwin, 1995). Mearns (1995) claims that there are areas of convergence and divergence on the definitions of SD. For example, there is little agreement on what needs to be sustained, at what level is sustainability significant and whether it is the level of production or the level of consumption that needs to be sustained. Others believe however, that the beauty of the concept lies in its vagueness or ambiguity (McCready, 1993; Winograd, 1996) as it allows for greater flexibility and a wider range from which to operationalize it within a particular context.

This research inquiry, however, did not seek to formulate another definition to add to this array of definitions. Neither was it an attempt to adopt and interpret the definitions presented by prestigious international organizations. It endeavored to escape falling into the technical trap of re-producing meanings as drawn from established sources. This would have allowed the research to be carried out in an unperturbed, mechanistic fashion. The meaning of ESD becomes a given and certain discourses are privileged. Consequently, knowledge in this sense, tends to be just reproduced. In such a research mode, ESD is reduced to an object to be investigated, a lifeless concept which is thus subjected to methodological control as is the case in empirical studies (Jardine, 1998).

Likewise, the research resisted the temptation of engaging experts or authorities in the field to formulate a definition based on what they think ESD should be. In my experience as a classroom teacher in the Philippines, I have noted the high regard for and heavy reliance of education officials on "experts" especially those bearing western credentials. This found evidence on those who had been invited to serve as educational consultants and leaders of evaluating teams. Or in some cases, some education officials who had been sent abroad to observe educational trends brought home with them pedagogical approaches which they wanted to be immediately adopted in the schools. Such practices raised issues on what teaching has come to be for me then, as a classroom teacher. It seemed to me that teaching had become an "imposition" from above which did not take into account teachers' particular contexts. I had a sense of being unable to respond to this particular situation because the necessity for compliance seemed to present a greater urgency. Responding to the pressure of producing a "well-written" report that satisfied bureaucratic expectations became the rule as it seemed to be regarded as the gauge of an "efficient" teaching performance. Reflecting on this experience made me recognize the paradoxes and contradictions that constituted my experience of teaching and my being a teacher. The lessons from this experience prompted me to refocus on the purpose of this inquiry.

This research study was designed to explore Filipino tertiary teachers' understandings of ESD. In other words, I, as a former tertiary teacher from the Philippines and a graduate student researcher from Canada was interested in coming to a deeper understanding of what ESD means to Filipino tertiary teachers, how they understand the work that they do and how they see themselves as ESD teachers in their own contexts. My aim was to bring the voices of teachers into an engagement with an ongoing social and cultural project of meaning making. I felt that an inquiry into what ESD means would find its most appropriate expression and articulation from teachers because they are the ones who are directly involved in its practice. Teachers bring life to the concept of ESD as it is meant to be taught, practised and lived. An investigation into the practical knowledge of teachers brings out narratives that are useful because they "authorize meanings, forms of theorizing that suggest a sense of ownership and voice in the theorizing process." (Britzman, 1991, p.51).

To carry out this research of exploring meanings, I engaged in hermeneutic conversations with thirteen teachers from two higher education institutions in Cotabato City: Saint Mary's University, a Catholic institution and South Plains State College which is part of the state system. As a former Filipino tertiary teacher interested in education and environment-development concerns, I also engaged in reflection with the participants on the theory and practice of ESD to deepen my insights on its practice in a Third World local context and draw implications to a First World country like Canada. Through hermeneutic conversations, we brought into questioning the theory and practice of education for sustainable development. "What ESD means" was the object of the research which conducted the conversations and brought forth stories of the lived realities and experiences of the participants as ESD teachers. Since the research was to a certain extent collaborative, the thirteen teacher participants who willingly shared their experiences and also engaged in the process of reflection, served as my co-researchers. The institutions as the workplace of my co-research participants represented the ground where these realities and experiences are practised and lived. In opening up the question, the environment-development issues in the community, the institutions' goals and ESD initiatives as well as the teachers' pedagogical strategies and experiences constituted the object of the research while my co-research participants distanced themselves from their teaching tasks in the conversations. Our interpretations of ESD continued to be shaped and be re-shaped by our interpretation of events unfolding in our homes, schools and the wider community.

Modern Conceptions of Education

In the conversations, we pointed to the relationship between education and sustainable development as being so closely intertwined in the sense that while the question of what sustainable development means was brought into play, the topic of education for sustainable development seemed to emerge naturally. Gallagher (1992), in his analysis of an inventory of definitions of education noted that there is such a multitude of definitions that there is constant disagreement on what it is. However, despite these different views, he claims that contemporary theories of education converge into a "modernist" conception bearing features of power and control Education in this sense, as "the acquisition of knowledge (whether 'knowledge that' or 'knowledge for,' whether content or technique) constitutes the acquisition of power to control nature, the environment, society, life, oneself and so forth" (Gallagher, 1992, p.174).

Rooted in the Cartesian tradition of scientific and technical rationality, this conception of education highlights the significance of method and objectivity. But Gallagher (1992) claims, method in this sense, is not neutral since it controls how one views the world and understands himself/herself which results in technological understanding. Hence, for him, contemporary theories of education, whether it be progressivist, humanistic or behavioristic, which are cast within the "modernist" framework demonstrate a scientific and technological focus that characterizes education in terms of its utility, instrumentality, clarity and univocity. This is evidenced by the educational thrusts, programs and policies being adopted or implemented in schools for the "improvement" of education.

It is not surprising therefore, to find so many studies falling under this scientific and technical mode since its claims of objectivity make it appealing to many investigators. However, following Heidegger's analysis, Gallagher (1992) points out that education can be thought of beyond the Cartesian mode of subject/object split and technological control. Jardine (1998) similarly challenges this paradigm of objectivity and clarity in modernist educational inquiry by putting forward the hermeneutic emphasis of understanding the world as not being "out there" but by our being-in -the-world. In this hermeneutic inquiry of what ESD means to Filipino tertiary teachers, education was not taken as "something under our control but something that has its own power in which we must learn to participate" (Gallagher, p.179). This exploration of teachers' understandings of what ESD means found the use of a scientific and technical mode of inquiry not very appropriate for this investigation. The lived realities and practical experiences of educators cannot be reduced to objective data which can be manipulated and investigated by a researcher from the outside.

Theory and Practice in Hermeneutics

This methodological difference of viewing the world brought the theory-practice dilemma into the surface. In contrast to logical positivist inquiry or empirical studies where practice is the translation of theory into technical tasks, the goal of hermeneutics is the opening up of possibilities for the creation of new meanings through an enlarged understanding of the self and the world. From the perspective of hermeneutics, practice is more concerned with responsibility for others. Theory, in this sense, is not knowledge abstracted from teaching practice. Following Gadamer who regarded such theoretical abstraction as knowledge detached from the lifeworld, Smits (1992) claims that it does not facilitate understanding within the frame of practice. The question of ethics or justice is constituted in the aspect of practice.

Gadamer's (1988) review of Aristotleian ethics offers illumination on the aspect of practice with his distinction between the knowledge of *phronesis* (practical knowledge) and *episteme* (theoretical knowledge). For Aristotle, knowledge is an essential component of moral being and this knowledge is not objective knowledge wherein "the knower is not standing over against a situation that he merely observes, but he is directly affected by what he sees" (p.280). It is this knowledge that governs his action. The knowledge of *episteme* represented by the model of mathematics is knowledge which can not be changed and relies on evidence or proof. This hermeneutic study highlighted teachers' practical knowledge, which explains why I bring a special focus on *phronesis.*

As action is governed by knowledge, it is necessary to distinguish *phronesis* from *techne* which also belongs to the practical. *Techne* or skill is the knowledge of the craftsman when he/she picks the right material and the right means to accomplish a specific thing with the goal towards mastery. On the other hand, *phronesis* or moral/practical or self knowledge as referred to by Aristotle involves making decisions. To make a moral decision calls for doing the right thing in a particular situation. However, what is right cannot be fully determined independently of the situation which calls for a right action. *Phronesis* also involves understanding which demonstrates concern about the other person, implying that in using this kind of moral judgment, one needs to place himself/herself in the concrete situation as "one united by a specific bond with the other, he thinks with the other and undergoes the situation with him" (Gadamer, 1988, p.288). In this study, the language of practice represents the teachers' self knowledge or moral knowledge as embodied in *phronesis.*

Bringing to language our interpretation of sustainable development issues based on our practical experiences coupled with our understanding of education as derived from our role as educators set forth the possibility of coming to an understanding through what

Gadamer (1988) referred to as the "fusion of horizons" (p.273). Listening to our voices through conversations not only brought to life other conversations we have had in our lives which bear significance to the object of our questioning but also offered an opportunity to see and hear ourselves in our stories. In the process, we were able to recognize the discordant notes and to identify discontinuities in various discourses and constructs as well as the contradictions and paradoxes that come into play in our daily lives. As we committed ourselves to advance the conversation, we set the ground for the possibility of regenerating the meaning of ESD by disrupting the "fossilized sedimentation of sense, desiring to open them up and allow 'the new' to erupt and thus allowing the old and already established and familiar to regenerate and renew itself" (Jardine, 1998, p.49).

> *As the pebble plunged into the water, the pond stirred with a splash. A ring of ripples suddenly emerged and the stillness was broken. The pebble had disrupted the placid pond.*

Education for Sustainable Development: What does it mean?

Conversation about the meaning of education for sustainable development seemed to make strange something that we thought was familiar. It was familiar in the sense that it seemed to constitute our lived experiences, something that was just within our grasp. But the more we inquired into its meaning, the more we came to recognize its complexity as we were drawn face to face with its contradictions, paradoxes and dilemmas. Yet, there was this urge to narrate our stories for interpretive inquiry "begins (and remains) with the "evocative, living familiarity" that these 'instances of our lives' evoke (Jardine, 1998, p.40). It is in these instances that something is revealed to us, something that we seem to know but do not fully understand and which addresses us. Gadamer (1988) claims that "understanding begins when something addresses us" which is "the primary hermeneutical condition" (p.266).

In this hermeneutic inquiry, the participants narrated their stories which revolved around their lived realities and practical experiences as ESD educators. In these stories, their perspectives, hopes and aspirations as ESD educators were also interwoven. What ESD means to the teacher participants is both an epistemological and ontological question.

As understanding involves application (Gadamer, 1988, p.275), the teachers' interpretation of ESD as an educational practice finds its ground in phronesis or practical moral knowledge or what Aristotle called self-knowledge. It is different from techne or technical knowledge, which, although it also belongs to the practical, is more closely associated with technical know-how. As stated in the earlier part of this chapter, phronesis or practical wisdom relates more to ethics or justice.

What constitutes the meaning of ESD for the tertiary teachers involved in the study is the lived sphere between techne or technical knowledge and phronesis or moral/self knowledge. This space between technical and moral knowledge can be grasped or apprehended in terms of the contradictions or dilemmas which surfaced in the conversations. The dilemmas were reflected in my co-research participants' stories about their lives and work in the classroom, in the institutions and in the wider community. It opened up possibilities for us, for it is in highlighting the dilemmas that we are able to expand our horizons as we come to understand and to relate the unfamiliar into the world which defines us. In the process, we transcend this world in the production of possibilities that reveal something about us (Gallagher, 1992). This leads to a better understanding of ourselves as ESD educators for all understanding is self-understanding (Gadamer, 1988). The contradictions are presented below.

> ***The disturbance in the pond blurred the images of the trees, the clouds and the sky. Yet, their outlines brought a sense of what they are although we could not fully figure them out***

Contradictions/Dilemmas in the Practice of Education for Sustainable Development

From the conversations I had with my co-research participants, contradictions and dilemmas emerged. A contradiction emerged based on the participants' views of the exercise of personal and public responsibility of caring for the environment. Another contradiction that surfaced arose from the way they viewed the relationship between development and the environment. This contradiction centered on the notion of SD as necessitating the harmonious relationship between the environment and development and the idea of an existing inherent tension between them. The conversations also revealed a dilemma concerning the importance of keeping and developing the local amidst the sweeping tide of the global. Lastly, the need to transform education posed a challenge to the participants in their attempts to integrate environmental education.

A Contradiction between Personal and Public Responsibility of Caring for the Environment

A contradiction that surfaced in the conversations emerged from most of my co-participants' narratives of what was being done and what should be done to solve the environmental problems in the community. As there were many environmental problems affecting the region, they focused their stories on the initiatives, thrusts and projects of government agencies and nongovernmental organizations as well as their own institutions to address them. There seemed to be a general agreement among them that in spite of the solutions that have been implemented, the problems have persisted. This situation has brought a kind of perplexity for most of them. From the descriptions however, of how these solutions have been planned and carried out, these alluded to a technical solution which was inclined towards control and demanded conformity and compliance. On the other hand, their explanations of how they regarded their environment and how they related to it suggested the need for a deeper understanding of the complex issues surrounding environmental problems and environmental care.

The earth or the environment was considered by most of my co- participants as the central component of sustainable development. This was explicitly expressed by Jenny (p.136) who teaches Engineering at Saint Mary's University, when she contended that the major factor in sustainable development is the environment. Likewise, Jerry (p.102), in explaining his view of the relationship between environment and development, underscored its significance when he claimed that "the roots of what we develop are in the environment."

Environmental Laws and Their Implementation

The garbage situation and pollution were serious environmental problems for all the participants. That these problems have persisted through time baffled some of them which was expressed with a tone that bordered on frustration and hopelessness. Arlene, who has a legal background with her Bachelor of Laws degree, invoked respect for human rights in her everyday battle with the garbage issue. She complained that Section 16, Article II of the Philippine Constitution, providing for the right of every citizen to a balanced and healthful ecology, is nothing but a farce because the garbage problem has persisted ever since she set foot in Cotabato City (p.263). Convinced that most people are aware of the importance of environmental care, she asked with exasperation, "How can we attain sustainable development when even the simple task of disposing our garbage properly can not be followed?" What Arlene tried to voice out in terms of legislation was equally expressed by some of the participants like Jenny (p.139) and Teresa (p.141) who complained about good laws being rendered futile because of problems in their implementation. Although Teresa viewed the garbage problem with a certain degree of optimism, she however, noted with dismay that in the aspect of sanitation, nothing has been done to educate food vendors and that in spite of ordinances to this effect, these tended to be forgotten or ignored when they are not enforced. In a related light, Jenny claimed that city ordinances to curb the effects of pollution caused by smoke-belching and extremely noisy vehicles seemed ignored because there were still a few freely plying their routes. Likewise, some of the participants pointed out that in spite of the presence of a log ban, illegal logging has remained unabated. This was attributed by Bernie (p.156) and Teresa (p.142) to the connivance between environmental violators and law enforcers and this often breeds corruption within various government agencies given the task to protect the environment. Furthermore, Jerry (p.105) of Saint Mary's felt that the pursuit of development projects by foreign and local business firms also caused massive environmental degradation in spite of a DENR Certificate of Environmental Compliance requirement. The Mt. Apo Geothermal Plant Project is a case in point.

From my co-participants' stories, there was a sense that in spite of the presence of legal structures, environmental problems could not be contained. The issue of good laws rendered futile because of the failure to enforce it faithfully has been a recurrent topic for most of the participants. However, the problem was not only traced to the defect in implementation. Ali of SPSC (p. 165), viewed the situation differently in that he argued that the problem does not lie on the law enforcers but on those who are supposed to obey the laws. Joyce (p.289) also of SPSC and who has attended DENR seminars and government-sponsored conferences likewise, asserted that the people should not just rely on the government for they too are responsible for the care of their environment.

While at a certain point in the conversations, some of the participants openly criticized the law enforcers, in other instances, they also related the issue to the lack of "education," "discipline," "values" and the "right attitude." Alex (p.113) could not quite categorically say that it was due to the lack of education or of values. He argued that obviously the law enforcers or implementors had been educated with "a good dose of

Christian values" that it was baffling for him to realize that these values seemed to have been completely tossed out once they got to the workplace. Alex considered the idea that if it was not the lack of education, then it could be a case of miseducation. Bernie (p.154) and Joyce (p.143) alluded to a problem of attitude or lack of education while Jenny (p.123) and Arlene (p.263) believed it is the lack of a sense of responsibility on the part of the people whether it be the implementors or the citizenry.

Although the participants did not dwell on the deeper implications of legislation, their stories conveyed their feelings of frustration with the implementation of the laws. While government efforts in terms of legislation were perceived by most of the participants with a certain degree of skepticism, the initiative of a nongovernmental organization was also brought into the conversation. Tina (p.149) who was newly assigned to teach in the college level at South Plains recalled that in spite of the intensive cleanliness project of the NGO, Kalinisan which hired street sweepers and distributed garbage receptacles throughout the city, the garbage problem slid back once the program was handed over to the city government due to the NGO's lack of funds. She asserted that the people's attitudes have not also changed in spite of the massive information drive on cleanliness and beautification.

Environmental Care in the Two Institutions

Focusing on the realities of their institutions, some of the participants pointed to some contradictions in the practice of environmental care. Clean-up and tree planting activities were mentioned as the usual ways of promoting environmental care in both institutions. Although the SMU campus was considered by most of the participants as conducive to the promotion of ESD because of its spacious lawns, tall trees and flowering plants, a few criticisms centered on the cafeteria's use of plastic cups and straws which are nonbiodegradable. Jenny (p. 254) had mentioned that there was a plan to avoid the use of plastics but its implementation was yet to be seen. Although the campus was comparably cleaner than in most parts of the city, in a few areas, plastic cups and wrappers had been thrown about in spite of the presence of garbage receptacles. Likewise, although students also participated in clean-up activities in the city such as during World Clean-up Day, there were also those who throw their rubbish anywhere. This observation was also expressed by the student leaders interviewed in the study. Jenny (p.251) deplored the practice of students to throw their examination papers anywhere especially when they happened to have low scores. She expressed the view that this matter is often overlooked and taken for granted by teachers, yet, the small things constitute the foundation of bigger things. Estela (p.236) expressed a similar perspective when she claimed that the small "doable" things are the starting points for the practice of ESD. Teresa (p.261) likewise, voiced out her concerns that students think that since they pay high fees, the matter of maintaining cleanliness is a task reserved for custodians. There was a sense that in the aspect of environmental care in the institution, there were those who sincerely endeavored to practise it but at the same time, others exhibited an attitude of uncaring and indifference towards this aspect of ESD

The contradiction between the notion of environmental care as emphasized by most of the participants and how it is lived and practised in the institution is more marked in South Plains State College. Since it offers degree programs in Agriculture and Forestry it was perplexing to find the campus quite barren with only a few ornamental plants in a few areas. Arlene (p.265) expressed this contradiction as she explained how she tried to implement environmental care through the "Clean and Green" program. Aside from emphasizing the maintenance of cleanliness of the surroundings, she had encouraged them to plant vegetables or medicinal or herbal plants in pots. Some potted herbal plants are being maintained in her office by her staff. However, Arlene also bewailed the fact that while her staff tried to keep the vicinity of their office clean, with students coming and going, it was difficult for them to maintain it. Likewise, Sarah (p.284) underscored the development of habits and practices of environmental care citing as an example, the idea of recycling or economizing on materials and the proper disposal of waste which she endeavored to develop in her students. Joyce (p.287) concurred with Sarah and noted that there were still areas on the matter of cleanliness and sanitation that needed to be looked into. In SPSC, contradictions were manifested in the participants' notion of environmental care as an essential feature of education for sustainable development and its implementation in the institution.

While most of the participants vigorously stressed that the environment is the major factor in sustainable development, they seemed to suggest that there is a fundamental issue that must be brought into play in order to fully understand the nature of environmental problems. It perplexed the participants to realize that although the maintenance of cleanliness for instance, is a simple task and despite all the government and nongovernmental programs and campaigns towards a clean and healthful environment, the garbage and pollution problems have persisted. The solutions adopted by the government, NGOs and the schools point to a technical approach indicative of a management strategy which relies on conformity to a set of procedures or rules. Although they did not explicitly challenge these rules, their expression of frustration was a reflection of a different turn in their way of viewing their environment and their relationship and responsibility towards it.

Re-casting a Relationship with the Earth

The significance that several of my co-participants attached to the environment in sustainable development could be grasped from their stories of how they viewed their relationship with the earth. In her narrative, Joyce (p.161), who teaches Food Technology at South Plains State College, gratefully pointed to the earth as "God's gift." so, as recipients of this gift, people are responsible for taking care of it. Her remarks were punctuated with reverence and implied a certain sacredness of place that situates people through this gift with a relationship to the divine. Teresa, displaying a motherly countenance as she talked about her community projects such as her herbal garden and nursery and "Neem Tree Boulevard," called the environment, "Mother Earth," appropriating the maternal symbol to signify the source of life. To regard the earth as mother is to make us her children. Being children of Mother Earth makes us all brothers and sisters with our kinship generated by our connection with the Earth. The symbiotic relationship was invoked by Teresa; "If we take care of Mother Earth, she will take care of us,' an echo of Brundtland's (1987) assertion that "If we take care of nature, nature will take care of us." (p.143). Joyce's and Teresa's narratives point to the interconnectedness or interrelationship of human beings with the earth.

The idea of interconnectedness was given another dimension when Jerry (p.101) in his philosophical reflections, presented the Taoist concept of flowing with nature which he explained as "leaving nature to its own course" as illustrated by the field caring for the flowers and the plants, implying the connection between the field and the plants. Sarah, who loves to go on nature trips, hinted a related idea when she described the beautiful and peaceful co-existence of human beings and animals with "monkeys frolicking and lizards crawling at your feet" (p.159) in one of the places she visited. In these stories, Jerry and Sarah alluded to the interconnectedness of all things, plants and animals, and the earth.

This connection of other beings or things with the earth took a different turn in Fatima's and Estela's stories. Displaying compassion for other creatures, Fatima (p.119), a member of the SMU Nursing faculty, demonstrated her concern in her story about the gecko as she deplored her students' instant reaction to kill it. She took issue with the case of stray animals (p.119), which she regarded as "still part of the environment." Estela, who admitted to be inclined to romanticist views, complemented Fatima's narrative with her playful encounter in her stories of the dinosaurs and eagles (p.128). Presented with the case of the eagles as needing thousands of pesos annually to save them, she echoed a common reaction: "Why make a fuss about eagles when there are children dying?" Estela made her point that "if eagles disappear, then we, too, could disappear." Identifying with the earth and other beings is also manifested in Estela's choice of ESD teaching strategies. Her writing activities are reflective of being one with the earth and other earthly beings (p.234). In their narratives, Fatima and Estela identified themselves with their environment as illustrated by Fatima's expression of compassion for animals and Estela's anticipation of plunging into the same tragic fate as the endangered eagles. A connection and unity with the earth was also articulated by the other participants in quite different terms but which found common ground in the assertion for the need to respect and value life in all its forms.

How several of my co participants viewed their relationship with their environment reflects a different mode of looking at environmental care. The notion of interconnectedness and even of a unity with the earth implies a different perspective which runs counter to the prevailing belief that the earth and its resources stand apart in relation to human beings and are therefore, objects of manipulation and control. Managing the environment in the form of legislation and a program based on technical procedures represents a contradiction with a view of caring for the environment as one united and connected with it. Caring for the environment from the participants' views is reflective of a need for a shift in the way people view and live their lives in relation to their environment.

A Contradiction between the Concept of SD as Environment and Development and as Environment vs. Development

An essential contradiction in the concept of sustainable development concerns the relationship between environment and development. In SD, the flipside of the environment is the "development" side. The conflict between environment and development goals is a common theme in sustainable development literature but it has been viewed in a slightly different way by most of the participants in this study. An understanding of the relationship between environment and development is relevant to

ESD because it is this understanding which establishes the link between SD and education.

Environment and/vs. Development

In the conversations, some participants like Jerry (p.102) and Alex (p.112) explicitly expressed that "development" and environmental goals could be harmonized. Jerry (p.100), however, alluded to an ambiguity in the term "sustainable development" implying that the words constituting the term are not coherent. Among all the participants, it was only Jerry who explicitly recognized the contradictory nature of the term. However, to him, SD is governed by the law of multiplication and not of attrition. In his view, industrial and technological development would lead to the enhancement of the environment. Ali (p.164) expressed a similar perspective in the sense that he does not question industrialization as long as it is not destructive of the environment. In a related light, Alex (p.111) clarified his notion of "development "as not being equated with the symbols of modernization like the presence of flyovers and five-star hotels. He elaborated that apart from the economic dimension, development has political, social and cultural aspects as well. The other participants like Fatima, Estela, Kris, Teresa, Jenny, Joyce, Bernie and Tina held similar notions of development which they had alluded to as not being equated with economic growth but reflects in more specific terms, a narrowing of the gap between the rich and the poor, a respect for human rights and care for the environment. A question that was raised by most of the participants like Fatima, Estela, Alex and Tina is, "Who benefits from this kind of development?" which is indicative of the skepticism expressed by them in connection with development projects put up by TNCs or local big businesses or even the government.

While most of the participants believed that environmental care and development goals are not conflicting, their stories pointed to a contradiction in such an assertion. Alex (p.112) insisted that the problem in meeting these goals lies in the implementation of thrusts or programs to achieve them. What impedes the realization of the goals of environmental care and of development is what he termed as the "culture of corruption." The spectre of corruption has been significantly mentioned in many of the participants' development narratives. Teresa (p.142) and Bernie (p.156) have described the modus operandi of some law enforcers while Alex (p.114) pointed to the role of the local ruling elite in business transactions. Other stories revolved around the development strategies of the national government as embodied in Philippines 2000. Related to these are the narratives concerning the role of TNCs and of big-time local businesses and politicians which brought into questioning aspects of leadership, ethical values and the lopsided relationship between the rich and the poor.

Development and Foreign Investments

In endeavoring to put the Philippines in the ranks of its Asian neighbors that have attained NIC (Newly Industrializing Countries) status, the then President of the Philippines, Fidel Ramos envisioned a program of rapid industrialization through Philippines 2000 which encased two development imperatives: global competitiveness and people empowerment. In the conversations about Philippines 2000, some of the participants brought into questioning the effects of foreign investments in the country's development. The role of foreign investors and business entrepreneurs in giving boost to the economy has been hailed as a significant feature of Philippines 2000. In their development stories, Jerry (p.107), Bernie (p.155) and Estela (p.129) argued that foreign investments are welcomed by government officials because they appear to represent 'development" in terms of job opportunities for the local residents. However, Jerry (p.107), Estela (p. 129), Alex (p.114) and Kris (p.134) claimed that some TNCs and local business giants have caused the exploitation of the nation's resources. The Mt. Apo Geothermal Project, designed to provide electricity to its surrounding areas, as described by Jerry (p.105) is a typical case in which a corporation through the blessings of the government, put up its project supposedly to alleviate the hard life of the inhabitants in the area (mostly indigenous people) but was met by protests from opposition groups because of the massive cutting down of the trees and its impact on the people's cultural survival. The environment-development tension which pits development projects with respect for the environment and human rights is best illustrated by the Mt. Apo story.

Bernie's (p.155) story about the massive logging activities in their area during his younger days also presents an environment-development contradiction with a different twist. He remembered too well that the logging operations of rich businessmen in their area were welcomed not only by government officials but by the people as well because they were thought to propel the economy by generating jobs so, it was felt that the establishment of the TNCs' business site in the area was something to be thankful for. But this led to a corresponding destruction of the forests which had serious consequences as evidenced by their experience of flashfloods. With the depletion of resources, Bernie claimed that he has come to realize that foreign investments could have more disastrous effects for the country in the sense that as the country remained economically depressed, its resources have also been depleted.

Arlene (p.264) however, found that not all TNCs could be pointed at as the culprits in the environmental crisis. In her trip to Dole Philippines, a TNC engaged in pineapple production, she was amazed at the efficiency of their waste management operations. She claimed that every part of the pineapple was used leaving no waste. What Arlene was trying to convey was related to Alex's (p.117) claim that there is also a social responsibility in business management, a kind of ethics which looks after and protects the consumers' interests.

The significance of these development narratives towards an understanding of education for sustainable development hinges on the contradictions emerging from the tension between environment and development goals. Most of the participants' claim that they can co-exist harmoniously yet their stories demonstrated otherwise. This presents a dilemma in the teaching of ESD. The participants like Fatima (p.223) and Teresa (p.258) have indicated that ESD needs to be focused on a critical understanding of environmental and development issues. They alluded to the idea that the local issues concerning the environment and development could be made the ground for the development of critical understanding. But how to reconcile environment and development goals in relation to local situations seemed to remain a perplexity for ESD educators as a result of these contradictions. How to attain development and sustain it demands a transformation in the conventional way of looking at development. A related dilemma is discussed below.

A Local/Global Dilemma

Another dilemma which was identified in the text of my conversations with the participants concerns the notion of a valuing of the local amidst the strong waves of the global. This was viewed as the impact of the remnants of a colonial legacy and the powerful sweep of globalization while clinging to vanishing traditional local practices currently being rescued and hailed as more dependable alternatives in the light of reported adverse effects of some modernization strategies and technological advances.

Focusing on the Local

As ESD educators, Teresa who teaches Livelihood Education at SMU and Joyce who teaches Food Preservation at SSPC, expressed the need to live sustainably through the adoption of simple lifestyles. Advocating the idea of self-reliance and of starting ESD in the home, Teresa (p.259) teaches her Education students to grow vegetable and herbal gardens for their food and medicinal needs. Joyce (p.289) was concerned about ways to prevent wastage of fruits or vegetables that are plenty when they are in season, through the various processes of food preservation. She also thinks that if there were recycling plants in the area, people would be motivated to collect and sort their garbage and sell them. In the Philippines, waste materials like paper, could be sold for recycling (p.288).

In her view, this would help reduce waste and at the same time, help make the city clean. With their community-based nursing program, Fatima (p.222) also pointed to the use of community resources like herbs for medicinal purposes. Jerry (p.103) also alluded to the significance of indigenous wisdom in terms of farming practices and caring for the environment. Most of the participants' ideas suggest living a lifestyle that could be described as focused on the local: simple, economical and consistent with one's means.

Globalization and Consumerism

On a different note, Estela (pp.235-236), aware of the strong impact of globalization and the tide of consumerism sweeping the country, wondered what "success" and the "good life" have come to mean. Her questioning was triggered by a news report regarding the awarding of outstanding alumni of SMU and she pondered on what the criteria would be. She presented her observations that the growing materialistic culture seemed to have driven people to view the "good life" in terms of material possessions. Advocating simplicity of lifestyles, Estela asserted that teachers as role models, can teach ESD values through the examples they demonstrate inside and outside their classrooms. Fatima (p.124), echoed similar concerns over the growing obsession of people to join the race to the top. She and Jerry (p.108) related this trend to their observations concerning the use of cell phones as becoming more of a status symbol and not as a job-related necessity. Jerry (p.108) also pointed to the successful strategy of TNCs and home grown business firms to shape the tastes and preferences of the Filipino consumer. These views speak of an awareness of the reality of the local situation being swept by the tide of modernity and globalization. Recent development strategies such as Philippines 2000, the creation of regional growth areas like BIMP-EAGA (Brunei, Indonesia, Malaysia and Philippines East ASEAN Growth Area), joining APEC (Asia-Pacific Economic Cooperation) and for the Mindanao area, the establishment of the SPCPD (Southern Philippines Council for Peace and Development) all demonstrated the need to attract foreign investors to boost the Philippine economy. However, some of the participants like Jerry (p.107), Estela (p.129)~~, Bernie (p.156)~~ and Kris (p.134) were wary of the effects of foreign investments on the state of the environment and the Philippine economy.

The penchant of some Filipinos for imported things especially western goods was traced by Tina as an effect of colonization (p.151). Commenting on her observation that the high quality Philippine products are for export and the low quality ones are left for the local market, she argued that this business practice breeds in Filipinos a feeling of disdain for their very own and conversely, a valuing of foreign things. She added that this explains why the younger generation no longer misses their native food, be they fruits or delicacies. These views were expressed by Tina in her attempt to defend the Filipino's entrepreneurial abilities. A related issue emerged from Tina's explanations. As an English teacher, the language issue was something important to her. Tina (p.151) claimed that she preferred using Ilonggo, her first language and English which she teaches, rather than Filipino, the national language which is a second language for her. Tina's assertions bring other aspects of the issue of the local in terms of practices, values and preferences which have relevance on the adoption of sustainable lifestyles in the practice of ESD.

In contrast to Tina's English preference is Kris' (p.245) search for the "Filipino" in Ecology books and materials. As a Science teacher, she felt the need for books that deal with local situations especially concerning the environment. According to her, the students could better relate to local issues because these are issues that concern them. This notion is supported by Teresa's (p.258) claim that her use of local reports from the dailies makes her lessons more interesting to the students. Kris' and Teresa's views on materials used in teaching ESD reflect some issues relevant to Tina's assertions on people's preferences.

. In the conversations, the participants like Teresa (p.259), Estela (p.235) and Fatima (p.124) alluded to the consideration of sustainable lifestyles as an aspect of ESD.

Estela (p.235) Fatima (p.124) and Jerry (p.108) were apprehensive of the growing globalization and materialistic culture demonstrated in the marked changes in people's attitudes and values as well as their modes of thinking and living. Tina (p.151) grappled with the causes of some Filipinos' preference for foreign things which could provide insights on the teachers' understanding of ESD in the light of adopting sustainable lifestyles. A dilemma is located between the local and the global as represented in practices, values and lifestyles. As ESD needs to be practised and lived, this dilemma of determining sustainable lifestyles amidst the constraints of a growing materialistic culture had been expressed by most of the participants in the study.

A Dilemma on the Integration of Environmental Education and the Need to Transform Education

A dilemma that emerged in my conversations with my co-research participants centered on the implementation of ESD in the formal education structure. On the one hand, most of them claimed they implemented it by integrating environmental education in their own subject areas. However, while they adhered to the process of integration, several constraining factors led them to assert the need to transform education to be able to adopt a framework which would put ESD into the core of the educational process. There was a sense, although it was not very explicit, that to most of the teacher participants, ESD represents a fundamental change in the structure and process of education.

The curricular structure adopted by both institutions indicated a modernist orientation with its compartmentalized disciplines independent of one another. As stated in Chapter Six, environmental education was mandated through PD 1152, to be integrated in the curriculum at the tertiary level. In both institutions involved in the study, teachers were expected to integrate environmental education concepts in the subjects they teach.

Integrating Environmental Education in the Different Subject Areas

Most of the participants claimed that they integrate environmental education in the different subjects they teach and some of them have reflected this in their own syllabi. Alex (pp.212-214) and Estela (pp.231-234), both of SMU, for instance, have described how they integrated environmental education concepts in their own subject fields. With recent developments stressing the need to include development issues, environmental education has been expanded to include various dimensions of development. Generally, environmental education was integrated by mapping out entry points in the course syllabus where environment and development issues could be integrally linked with the subject matter themes of the course. These were not only reflected in the course syllabi but also in their curricular materials. Jerry (p.206) and Estela (p.232-233) for instance, have integrated it through the choice of articles on environment and development issues which they have built into their module or course text and workbooks in Ethics, English, Peace Education and Literature. Teresa's (p.259) text on Livelihood Education and the other resource materials she used also bring in the environment and development dimension. Kris' (p.241) subject matter in the natural sciences, Jenny's (p.252) in Environmental Science and Alex's in Economics and Political Science (pp.212-214) bring in themes reflective of environment and development. The community-based Nursing program in which Fatima (pp.223-224) is very much involved with is structured to encompass environment and development issues in relation to health care.

As for the participants of SPSC, because of the nature of the courses in Agriculture, Fisheries, Forestry and Food Technology, Ali, (p.294-295) Sarah, (pp.281-283) and Joyce (p.289) have environment and development themes included in their course syllabi. In some instances, a few of the participants in both institutions described how they also taught it incidentally as described by Arlene (p.264-265) in her Communication Arts (Filipino) class. Although Tina (p.268) and Bernie (p. 275) claimed they have not really focused much on the integration of ESD in their classes, their stories and ideas on teaching strategies showed that they may have incidentally taught it somehow. The presence however, of environment and development themes in the course syllabi does not fully demonstrate how these are interwoven in the lesson. However, it enhanced my co-participants' stories which revolved around their classroom experiences of their manner of integrating environmental education which is reflective of the practice or the implementation of ESD. The integration of ESD as described by most of the participants did not involve a major change in the curricular structure. Although a link was established between ESD and the subject field with which it was integrated as claimed by some of the participants like Estela (p.234), Kris (p.241) and Teresa (p,258), the process of integration within a compartmentalized framework cannot generate a holistic impact that could really highlight interrelationships and transcend the boundaries of curricular disciplines if it is not well-planned and carefully designed.

ESD Goals and the Institutions' Vision-Mission

Most of my co-participants regarded their institutions' vision-mission as reflective of ESD goals. Alex (pp.210-211) the "economist," regarded the vision-mission as giving direction to the university in terms of the kinds of graduates it hopes to produce. For instance, one of SMU's goals as stated in the vision-mission is to give special attention to the poor which to him, is reflective of an ESD goal. To Alex, this goal directs the university to produce graduates who can think critically and are "well conscientized" on certain issues like ecological problems which affect them and the process of development. The other participants of SMU like Kris (p.239-240) and Fatima (p.226) also highlighted this goal in the vision-mission as reflective of ESD. In another light, Ali of SPSC presented his view that to achieve their institution's ESD goals as embodied in their vision-mission, of helping students become "ecology-oriented users, conservers and preservers," he exposes his students to "the unexplored and to the rehabilitated spots to make them aware of the difference of the beauty between them" (p.295). In another aspect of our conversation however, Ali (pp.296) suggested exporting the country's human resources to supply the manpower needs of other countries. When these workers have learned enough skills, they could return to the country and make the products themselves. The development of manpower skills is also one of the goals in SPSC's mission expressed in terms of tapping the students' potential in technical, agro-industrial and vocational skills. Ali believed that the most effective education is one which students can make use of in terms of employment after graduation and that the real resources of the country are its human resources. In both situations, the institutions were perceived as providing the kind of education that would produce graduates in accordance with their vision-mission which the participants claim, is partly reflective of ESD goals. A dilemma however, could be traced between the two ESD goals identified in these two situations and what the participants felt would help in their realization. This dilemma stems from the conflict between a technical and practical understanding of development in relation to the issue of the environment.

The Call for Change in Education

While many of the participants shared their experience of integrating environment and development concepts in their classes and at the same time extolling the virtues of education, some of them like Jerry (p.202-205), Alex (p.219), Tina (p.272-273) and Ali (pp.291-293) asserted the need to transform education to make it responsive to the goals of sustainable development. Finding the present system in need of change, Jerry declared that ESD starts with the cry to transform education . He brought forth the relationship between the economic situation of teachers and the need to take overloads as affecting students' learning. Although the overloads is a happy compromise between the university administration and the teachers, he felt concerned that students suffer in the process. Jerry also described some teaching practices, teaching strategies and even attitudes which have not changed over the years and are therefore, no longer attuned to the times. To remedy the situation, Jerry proposed making changes in the traditional conception of teaching and learning which he identified as adhering to the "banking" type, highlighting the need for change in teachers' pedagogical strategies and for sharing and collaboration in students' activities. In a related light, Alex (p.299) enthusiastically presented his idea of an ESD program where everyone must participate and get involved. For him, the successful implementation of an ESD program demands the support and commitment of all those involved. Likewise, he believed that a new program entails change in the curricular offerings and change in the methods of teaching. Ali (pp.291-293) of SPSC, presented a related view of education. Claiming that education is the real avenue towards sustainability, he tried to distinguish between "being educated' and "having learned." To Ali, a person could be educated with a string of diplomas to his name but maybe mired in moral decay because he/she "has not learned." To him, ESD should really be about not only "being educated" but also "having learned." What Ali tried to emphasize was the need to change the traditional perceptions or views about education and that what really matters is genuine learning or a value system that could guide one's life in relation to others and to the environment. For the implementation of ESD, Ali proposed curricular changes as well as a corresponding change in teachers' concepts of teaching. Tina (p.268), an English teacher of SPSC, likewise took issue with education in its aim of making students understand their role in sustainable development. She claimed that the country was not headed towards the direction of SD not because of the failure of education but because of people who make education "look bad". However, in spite of the defects in the system, Tina is optimistic about education's ability to transform society. Like Ali, she also proposed several ways of transforming the process of teaching so students could really learn.

Most of the participants felt that the implementation of ESD necessitates some corresponding changes in the process of teaching and learning. There was common agreement about the advantage of using participatory approaches over the usual traditional lecture which is still very much in use in the tertiary level. Most of the participants especially at SMU, enthusiastically described their teaching strategies which they characterized as participatory, experiential and collaborative. Although they find these strategies as very effective in carrying out the aims of their lessons, several constraints hinder them to make use of them everytime. These constraints, as pointed out by most of the participants like Estela (pp. 230)), Jerry (p.203) and Kris (p.241-244) boiled down to the lack of time to prepare on the part of teachers as well as the students. Time was associated by Jerry with the economic situation of teachers as earlier stated. For Kris, with so much time spent when using participatory strategies, there would not be enough time to finish the whole unit according to schedule. Time is a controlling factor in the teachers' desire to be able to integrate ESD as they thought best. The personal situations of teachers also impinge on their way of teaching and their views of educating for sustainable development.

For Alex (p.217) and Jenny (p.249), ESD should not only be confined to the schools. Alex believed that ESD should also permeate into the corporate world as well as the NGOs and the wider community. Jenny felt that ESD should not be the responsibility of only the academe, since the media such as radio and television and other agencies could also play major roles in educating for sustainable development. The suggestion of a wider participation and involvement of those outside the academic setting was indicative of the participants' understanding of a broader framework of ESD.

A dilemma surfaced in most of the participants' stories of the implementation of ESD in the formal education structure. They felt the need to abide by a legislative mandate which mandated the integration of environmental education in the subjects they were teaching. On the other hand, most of them also believed that education for sustainable development is actually a call for change not only in the structure and process of formal education but within a broader and deeper frame of reference encompassing the way we live our lives. Likewise, they alluded to a change in their conception of education based on their stories focusing on their views of teaching and learning. The dilemma finds its traces between their technical understanding of education expressed in terms of efficiency, mastery and control and their practical understanding of what education for sustainable development should be which resounded in their assertion for change.

Reflections on the Teachers' Conversations

In his discussion of the modern conceptions of education, Gallagher (1992) argues that contemporary definitions of education are modernistic in that their common underlying concepts are the modern concepts of power and control and a notion of subjectivity in which the individual has a complete and conscious control over self, environment and nature. As a term, education for sustainable development seems to imply a modernist reduction of education to an instrumental function as the acquisition of knowledge for "development" that is not only of the present but also of the future. With knowledge equated with power, education becomes the means to control the environment and life. On the other hand, education for sustainable development also suggests a challenge to the current system of education. Geared towards the attainment of sustainable development, it carries with it elements of ambiguity and contradictions. Sustainable development in itself, has been dubbed as an oxymoron in environment and development literature. ESD is an embodiment of contradictions and dilemmas which are also reflective of our lived realities.

My conversations with my co-research participants which centered not only on their pedagogical experiences of ESD but also on the environmental problems in the region and the programs and projects of the government and NGOs that were designed to address them reveal aspects of their understandings of education for sustainable development. The participants' own understandings of SD and of education basically determine the direction of pedagogical practice which are formally or informally brought into the classroom or in the institution or in the community. In this study, the issues surrounding sustainable development in the region constituted some of the main themes which generated a perspective of ESD consistent with and reflective of the local situation. Several dilemmas or contradictions however, emerged from the conversations which arose from the dialectical relationship between the teachers' technical understanding of teaching and self-understanding as ESD educators.

In both institutions involved in the study, ESD was a fairly new term and was often equated with Environmental Education. The necessity to reflect development issues was expressed by Kris (p.240) with her assertion of the need to reconceptualize the goals of Environmental Education. In this inquiry, ESD was regarded within a broader educational framework encompassing education in its formal and nonformal contexts. This explains the emphasis given to the teachers' understanding of SD as a necessary component of their understanding of ESD.

The dilemmas or contradictions which emerged from the conversations are constitutive of my co-participants' day-to-day experiences. The many faces of ESD such as environmental care, sustainable lifestyles and development thrusts do not only belong to the sphere of academe, which is generally associated with the advancement of knowledge. They are practised and lived in the home, in the community and in the workplace. The knowledge generated from our practical experiences carries as much significance as theoretical abstractions presented in SD literature. As the dilemmas and contradictions have shown, technical solutions to environmental problems have proven ineffective and inappropriate to the teachers' particular context. Their implications raise issues on how these dilemmas or contradictions ought to be regarded in the practice of ESD. This is further discussed in the latter part of this section.

From several of the participants' narratives, the environmental and development programs and projects were assessed as not effective enough to bring a lasting solution to the problems of garbage, pollution and forest denudation in the region. Legislation on the part of the government and an intensive city-wide cleanliness program organized by an

NGO could not address them The institutions themselves are confronted with the garbage problem in spite of a "clean and green" program at South Plains and although the garbage situation was less serious at St. Mary's, with its Peace Education program, the cafeteria's use of plastics was considered inconsistent with environmental care. The garbage problem has persisted in spite of certain parts of the vision-mission of each institution implying the goal of environmental care.

Technical Solutions to Environmental Problems

A closer look at the solutions to the environmental problems would indicate an inclination towards a technical approach which relies heavily on centralized management and control and expects obedience and compliance on the part of the governed. Although this point was not explicitly articulated by my co-participants, the frequent expressions of skepticism and repetitive allusion by some of them, to laws not complied with, more than conveyed their frustrations and mistrust of bureaucratic procedures and legal structures that seemed to be ineffective and futile. The realities of corrupt practices seemed to have eroded some of their trust in the way laws are enforced. At some points in our conversation, there was a sense that some of them sometimes felt a loss of faith in their leaders whom they blamed as not doing enough for the people. In so doing, they, at the same time, gave the impression that they expected much more from them. Some of them also flipped the issue back at those who lacked education, values, discipline and the right attitudes. Two of the participants, Ali (p. 165) and Joyce (p. 289) brought forth a reminder about the responsibility also of the governed. A dissatisfaction in the system of law enforcement involving the relationship of the enforcer and the governed was evident. The vacillation as well as the exclusion of the self in the responsibility demonstrates a scenario in which a technical mode seemed to be also in operation with some of the participants isolated or standing outside of their own world. The conversations revealed a contradiction between the participants' perception of personal commitment and public responsibility in relation to environmental care.

The practice of environmental care in the institutions were in the form of clean-up and tree planting activities which were done occasionally in conjunction with special events. These activities and the adoption of government-sponsored programs like the "clean and green" program constitute another technical approach to environmental care. As in past experiences, they have come to be regarded as requirements that needed compliance.

The conversations indicated the frustration of most of the participants over technical solutions to environmental problems. The emphasis on technical solutions which rely on the power of legal structures, reduces environmental care to a form of environmental management where the environment becomes an object of manipulation and control.It is not surprising therefore, that most of the government solutions to the problems of pollution and forest denudation come in the form of laws and ordinances. In the case of development projects, an environmental clearance certificate is required. However, as articulated by most of the participants, there are many good laws but the problem always lies in the implementation. There is a sense, that in endeavoring to solve environmental problems, more complex problems emerged. In the process, the attention is no longer focused on the situation of the environment but is deflected towards law enforcement.

A Different Conception of Development

In a related vein, the development-environment dilemma, although highlighted also in SD literature, was identified in the conversations mainly from the claims of many of the participants that environmental goals and development concerns complement each other in SD. The conversations concerning development projects and foreign investments pointed however, to their incompatibility. Some of my co-researchers located the essential contradiction in SD. Their criticism of Philippines 2000, indicated their different interpretation of "development." The contradictions centered on these different interpretations. With the programs' two imperatives, global competitiveness and people empowerment, several participants were skeptical about its impact on the environment. Although the official development discourse speaks of poverty alleviation, from the participants' practical experiences, the stress on economic growth and attracting foreign investments led them to ask who get the benefits of such kind of development. Philippines 2000 is grounded on a scientific and technical rationality that offers a technological fix to the problem of poverty.

The stories of some of the participants pointed to a different way of viewing development in relation to how they also view their relationship with their environment. In trying to understand the case of the Mt. Apo Geothermal Plant Project, the issue of human rights brought an added dimension to an understanding of development. Deeply concerned about the plight of others, Jerry (pp.102-104) viewed development not so much in terms of the benefits of technology but in the cultural survival of indigenous peoples.

Self-reliance and a Sense of Community

The local-global dilemma surfaced in the conversation as a growing awareness of the tide of globalization was brought into play. Teresa (p.256) and Joyce (p.281) highlighted ways to promote self-sufficiency at the micro level with projects that meet the basic needs of the family or the community. The community-based nursing program of SMU is also geared towards the same ESD goal. However, the sweeping tide of globalization is a force which some of the participants themselves could not ignore. The lifestyles associated with a growing materialistic culture is rapidly holding sway which Estela (pp.235-236) could not help but bring into questioning. Some of the participants argued for a focus on the local that is, in striving towards sustainable development, it must be contextualized. It must be understood in terms of the local situation. The dilemma arises from most of the participants' view of promoting lifestyles and values for which they claim ownership yet, there is also an awareness of the strong influence of globalization which some of them recognized as very difficult to resist.

The Integration of Environmental Education

In the two institutions, environmental education as an essential feature of ESD is integrated in the subject areas. As stated earlier, the integration of EE has been mandated and is therefore something that must be complied with. Although a few of my co-participants claimed to enjoy academic freedom in their choice of teaching methods, several constraints tended to make them rely on a technical and scientific mode of viewing their world and their particular situations. Moreover, the general structure of education in the two institutions involved in the study is reflective of a modernist orientation that a dominant scientific and technical discourse has generated a taken-for-granted overriding claim to educational practice. Following Heidegger, Gallagher (1992) argues that being subject to a scientific and technical methodological framework results in a "technological understanding of the world and of ourselves (p. 207).

The dilemma that surfaced from several of my co-participants' conversations of their tasks as ESD educators stemmed from their recognition of the need to comply with the mandate to integrate environmental education in their subject areas and of the need to transform education in their desire to teach ESD more effectively. The tension between my co-participants' technical and practical understanding of their work as ESD educators brought forth a contradiction in their way of looking at education and of teaching and learning. Contradictions however, leads one to seek ways to cope with them. The negativity of experience (Gadamer,1988) became the starting point for searching for further possibilities towards an enlarged understanding of ESD. Most of the narratives suggested that ESD is a challenge to the prevailing educational structures which hinder its practice. To make ESD a living and dynamic experience for students and to help make schools genuine places for the promotion of sustainable development are two tasks some of the participants alluded to as part of their role and responsibility as ESD educators.

From Contradictions to Possibilities

Contradictions and dilemmas emerged from my conversations with my co-participants in their interpretation of the theory and practice of education for sustainable development. However, the presence of these contradictions and dilemmas does not imply a halt to understanding. Rather, it became a way of opening up possibilities for an enlarged understanding of our world and ourselves as ESD educators. Gallagher (1992) claims that interpretation, itself carries the aporias of ambiguity and the finitude of understanding. He explains that the moderate theory of hermeneutics recognizes that ambiguity can not be avoided, so it must not be denied. It does not imply however, that the opportunity for transformation is lost. To cope with the ambiguity, it proposes phronesis or practical wisdom to enable us to transform our understanding of ourselves and our world.

This hermeneutic encounter enabled my co-participants and I to interpret ESD in the light of our own contexts. But this understanding is never complete. We left the conversation open in order that new interpretations could emerge. Some of us came to realize that it is through our participation in the conversation that we find ourselves empowered as ESD educators. Following Focault, Gallagher (1992) states: "Interpretations never completely escape the power structures that define them but they constantly transform these structures" (p.350). While power constrains interpretation, it is also constrained by interpretation. Interpretatiuons which come about through conversations could be the source of power for transformation. Jerry captured the productive power of conversation when he claimed that "by sharing ideas, discussing issues," we can "build human bridges " and "if we do not destroy one another, there is also the corresponding effect that we do not destroy our environment" (p.179).

Reflections on the Critical Literature on Sustainable Development and Education for Sustainable Development

Although education for sustainable development has been interpreted in a variety of ways, much of the current conceptions could be traced to a movement between two paradigms or perspectives of sustainable development, on two significant aspects: first, on how people view their relationship with their environment and its impact on development and second, on their way of looking at education. This is a movement between an anthropocentric-technocentric orientation and an ecocentric perspective. While most of the efforts towards education for sustainability as gleaned in international conferences and fora have made valuable contributions to its theory and practice, Fien and Trainer (1993) claimed that these were based on an unchallenged view of sustainable development. They argue that the WCED (1987) definition of sustainable development has been uncritically explored but has been widely accepted. In recent years however, several writers have identified the contradictions in the WCED definition and alternative ways of looking at sustainable development have emerged.

Two Paradigms of Development

In this study, most of my co-participants' understandings of the theory and practice of education for sustainable development as gleaned from the conversations were embedded within an anthropocentric-technocentric orientation and an ecocentric position. In his analysis of the two paradigms of sustainability, Milbrath (1996) made the distinction between the Dominant Social Paradigm and the New Ecological Paradigm. Contrasting paradigms in this manner should not be taken in an absolute fashion for as Drengson (1996) explains, this could condition the mind and result in lost flexibility whereas the aim is to free the mind and avoid conceptual rigidity. Braced on a highly anthropocentric and technocentric position, the Dominant Social Paradigm is framed in the belief that humans control and dominate the environment and resources. Akin to Drengson's (1966) technocratic paradigm, it regards nature as an object which can be managed and manipulated. It firmly believes in the power of technology to solve any kind of problem. In contrast, the New Ecological Paradigm highlights the interdependence of human beings and other species and believes that there are limits to the economic growth of human societies. It does not believe that science and technology could provide all the answers to environmental problems.

As stated in the earlier part of this chapter, modern conceptions of education converge towards an emphasis on scientific and technical rationality and are characterized by features of power and control. In the conversations, the solutions to environmental problems and the strategies in the pursuit of sustainable development showed a trend towards a technical mode highlighting the importance of efficient management through legislation and control. However, based on their observations and experiences, many of my co-participants expressed their feelings of frustration over technical solutions based on compliance of rules and regulations and were wary of the corruption that often stand in the way of a faithful implementation of laws. At the same time, some of them did not dismiss the idea that environmental problems are also rooted in the lack of discipline, values or education.

The tendency to rely so much on rules and regulations stems from the centralized and bureaucratic structure of government agencies and institutions. The strong emphasis on obedience and compliance represents the necessity for control. It leaves an impression that environmental care and protection could only be achieved through suppression and control and not through freedom and responsibility. But, as voiced out by the participants, it has not led to the improvement of the environmental situation.

Most of the teacher participants expressed a different view of how they relate to their environment. From the conversations, in projecting and identifying themselves with other creatures of the earth, Fatima and Estela demonstrated an ecocentric inclination in a way inspired by the deep ecology movement as explained in the philosophy of self-realization by Naess (1995) and Naess and Sessions (1995) and elaborated on in the concepts of the ecological self by Devall.(1995). Likewise, Bernie showed this same compassion in his feelings of regret over his experience of blast fishing. The other participants like Jerry, Alex and Kris have indicated a oneness with their fellow human beings' plight as evidenced in their expressions of concern over the injustice suffered by indigenous people especially in situations where they are deprived of the use of their own resources. However, in their critique, Fien and Trainer (1993) expressed the view that deep ecology stresses the importance of personal transformation so much that it fails to link personal transformation to structural change which causes it to miss a necessary component of social change. Nevertheless, this link could be nurtured and developed from my co-participants' sense of community, concern for others and sensitivity to events so evident in their stories.

This different view of relating with the environment correspondingly, brings a different vision of education for sustainable development. It is more inclined towards the New Ecological Paradigm and shows a departure from a scientific-technical orientation which has dominated many educational policies and decisions. This scientific-technical mode generated a taken-for-granted assumption that technology could provide the answers to ecological problems hence, the emphasis on science and technology in education. However, Suzuki (1997) asserts that, "science fragments the way we see the world, so we have no context within which to see what impact our activities and technological applications have" (p.211).

Economic Growth and Sustainable Development

In a related light, how development is viewed in relation to the environment represents another significant aspect in an understanding of education for sustainable development. Reflective of the Dominant Social Paradigm, the report of the Brundtland Commission (1987) highlighted the need for economic growth to solve the problem of poverty. The development thrusts of the government embodied in Philippines 2000 and as contained in such documents as the Philippine Strategy for Sustainable Development (1989) and Philippine Agenda 21 (1996) also stress the need for economic growth to solve the problem of poverty. This poses a kind of contradiction for those who believe that continued economic growth exerts a tremendous pressure on the present unsustainable level of resource use (Fien and Trainer, 1993; Graf, 1992; Goldsmith, 1996; Khor, 1996). The impact of foreign investments on the country's resources as well as on the country's economy has made some of the participants skeptical about the wisdom of granting so many incentives to foreign investors.

Many of the teacher participants however, believed that environmental protection and economic development could be harmonized, elaborating on their concept of development as not equated with economic growth alone. They mentioned the need for social equity and justice, peace, respect for human rights and environmental protection as elements of development especially in the Mindanao context. For example, the struggles of indigenous people for their rights to their ancestral lands is a significant issue (Arquiza, 1990; Alianza, 1991; Lopez, 1993). Furthermore, it is the indigenous people who have been most neglected in the delivery of social services (Magpantay, 1990). These situations in the region bring deeper implications to many of my co-participants' understandings of ESD and a different way of viewing education in general and of teaching and learning in particular. They however, realized that this is easier said than done. But, always full of hope, in their tales of empowerment, they believed that in their own way, they could contribute to the realization of this vision of sustainable development.

Navigating the Transition towards Sustainability

In the conversations, many of my co-participants felt that transformation in the conception and structure of education is necessary to bring about an education for sustainable development. While they talked about how they integrate environmental education in their subject areas, they also alluded to the need of viewing education in a different light. This perspective reflects Bonnets (1999) assertion that ESD calls for a new frame of mind and Jardine's (1997) assertion of the need of curricular disciplines for constant renewal and transformation. Orr (1993) likewise have suggested that the transition to sustainability can not be effected with the kind of education that have caused the problems. Fien and Trainer (1993) propose a comprehensive philosophy of education for sustainability which poses a challenge to the technological assumptions and solutions of the WCED report.

Some contemporary educational practices have been put into questioning by the participants who feel that changes are necessary not only in terms of educational goals but also in terms of pedagogy. This critique of contemporary education finds support in Zuber's (1998) observation of contemporary education and its conspiracy with a consumerist worldview while strongly asserting that schooling could be understood as a means to pursue justice or to restore our natural environment. He suggests a pedagogy centered on "best environmental practices" (p.2) which starts with self-understanding, to invigorate the teaching of ESD. Mearns (1995) similarly agrees that the current practice of formal education has been an uncertain vehicle for the pursuit of changes in the socio-economic spheres to enable the poor to participate in their own development.

The community-based Health Resources Development Program of the College of Nursing represents a change in the structure of education which puts emphasis on the needs of the local community in planning an educational program. This program exemplifies the kind of education that reaches out to the grassroots, a case of the academic community working side by side with the people of the community. The idea of self-reliance stresses the significance of viewing ESD in terms of the local situation. This concept may be viewed as stressing independence contrary to an emphasis on interdependence in ESD. However, in Teresa's view, it is a way of providing for the people's basic needs starting with the family. It is quite different from the Basic Human Needs (BHN) paradigm (Goulet, 1996) which aims to provide for large numbers of people through technological efficiency. Rather, it resembles Gandhi's (Kumar, 1996) principle of *swadeshi* which puts priority on the village in the utilization, production and consumption of its own resources. Norberg-Hodge's (1996) assertion of the need to shift directions from global dependence to local interdependence reflects the importance of grassroots initiatives in the strengthening of community-based economies. This is further enhanced through the building of authority, responsibility and capacity (Morris, 1996).

In many instances, some participants felt that concentrating on the small "doable " things rather than the big things shows a way of living sustainably in a cultural milieu which is rapidly changing in this era of globalization. Others think that an awareness of the consumerist culture which is fast sweeping the nation especially in the cities, stimulates them to reflect on their sense of values in order to cope with the onslaughts of globalization. An emphasis on the development of values and sustainable lifestyles is also an important aspect of education for sustainable development for most of the participants. The metaphor of the ecological footprint is instructive in committing oneself to lifestyles consistent witn the carrying capacity of our environments (Zuber, 1997). The significance of "well-being" rather than of "well-having" captures the essence of transformation from unsustainable consumerist practices to simple and sustainable lifestyles (Sachs, Loske and Linz, 1998). Thus, the process of transformation in education for sustainable development encompasses various aspects of life.

Empowering ESD Teachers

An emphasis on the local and a sense of community captures the essence of education for sustainable development for many of the participants which could be a way of escaping from bureaucratic procedures and technical solutions to environmental problems. A transformation in teachers' conception of education especially the process of teaching and learning could lead to emancipation. In my co-participants' tales of empowerment, many of them alluded to the broadening and deepening of knowledge through attendance and participation in trainings, seminars and workshops. These trainings and workshops often serve as fora for them to share and voice out their concerns. These opportunities to engage in "conversations" with their colleagues bring that much -needed boost to empower them to try new ways and innovations in their teaching. This is an initial step towards emancipation from the fetters of bureacratic practices as it allows their voices to come out and to bring legitimacy to their practical knowledge. Gallagher's (1992) local hermeneutics and Alexander's (1997) idea of the constant recovery and transformation of the community inspired by Gadamer's philosophical hermeneutics, bring insights on how education for sustainable development could be fostered through democratic participation. In stressing the need for a sense of community, Berry's (1988) reminder remains helpful: "All human professions, institutions and activities must be integral with the earth as the primary self-nourishing, self-governing and self-fulfilling community. To integrate our human activities within this context is our way into the future." Emancipation from the technological trap in the modernist conception of education finds possibilities in a concept of ESD at the level of the local community nurtured in conversation and dialogue.

Self-Reflections as an ESD Educator

This long research journey to explore Filipino tertiary teachers' understanding of the theory and practice of education for sustainable development unveiled new vistas in my way of looking at my being-in-the-world. The field of hermeneutics offered a different lens through which I could view reality. Having been a part of an education in my home country that unflinchingly waved the vestiges of its colonial heritage, I was already attuned to a worldview which attached so much significance to a scientific and technical rationality as the source of truth and which reduced folk wisdom and myth to being the scourge of the march towards development or progress. Although the dominant development discourse was woven along the same thread, my inner voice prompted me to venture along alternative routes in this research quest.

Gadamer's philosophical hermeneutics provided an appropriate ground to anchor this inquiry. Through hermeneutic conversations, my co-participants and I journeyed through the maze of interpreting ESD in the light of our own situations, realities and practical experiences. In our dialogue, we brought our foreconceptions to explore the unfamiliar in a "dialectical exchange of transcendence or appropriation" (Gallagher, 1972, p.188). In the process, I situated myself within the research frame and not as an observer from the outside.

I also considered the theory-practice construct from a different perspective. The process of theorizing is not isolated from the experience of teaching but "as a lived relationship grounded in the practical existence of persons and dependent upon the process of interpretation and change" (Britzman, 1991, p.50). In this inquiry, theory and practice were viewed within the framework of application in hermeneutics which significantly differs from a long-held notion of practice being an application of theory. It is unlike an instrumental application in educational experience with a means-end framework. Rather, it is modeled on *phronesis* or moral knowledge and is linked to the aspect of self-responsibility in self-understaanding. Self-responsibility in this sense, does not refer to that which results from a subject who stands back to have an objective view of its actions. As Gallagher (1992) puts it, "The self which gets understood is neither the self which stands prior to experience nor the self which stands at the end. Self-responsibility, a particular sense of *phronesis*, is not an end state, but is involved in the process of transformation undergone in educational experience" (p.188).

The hermeneutic experience paved the way for a different approach to the process of inquiry. As well, from my conversations with my co-participants, the ambiguities that surfaced deepened my insights on how understandings are arrived at. It is by being involved in the questioning process that we are led to greater possibilities for an understanding of ourselves through the movement of transcendence and appropriation. Through my encounters with new topics along with my co-research participants, I experienced a growing transformation in an understanding of myself as an ESD educator.

Likewise, as I critically reflected after every fruitful exchange of ideas and experiences with my co-participants, my interpretation of the object of conversation was continually being renewed and transformed. New meanings were generated at every encounter. My own understanding of education for sustainable development was constantly undergoing transformations as the realities of the work of educators were brought into focus. From the conversations, it dawned on me that indeed, in their everyday classroom interactions, teachers are always confronted with the need to make adjustments and accommodations and these are things that are often taken for granted. Decisions are made contingent on the particular situation and based on teachers' practical moral understanding which has been informed by traditions, culture and related experiences. The challenges, constraints and contradictions that my co-participants encountered in the teaching of ESD opened more possibilities for understanding for it is the negativity of experience (Gadamer, 1988) that tends to lead the way towards transformation. Jerry's assertion that ESD starts with the cry to transform education, for example, serves as a rallying point for a new way of thinking about education in the context of sustainable development as has been also articulated by Fien, (1992), Orr (1992), Jardine (1998), Bonnett (1999) and others.

As a former teacher from the Philippines, now residing in Canada, my experiences of two worlds, offered more possibilities for an enlarged understanding of ESD, myself and the world. Exploring the meaning of ESD in the light of a Third World local context enabled me to grasp a better understanding of not only the local but also global situations. The direction of movement of a local hermeneutics as proposed by Gallagher (1992) is from the particular to a universal. It provided an enabling condition for distanciation and appropriation which guide understanding (Ricouer,1981). It allowed for an approach to the unfamiliar through language and my cultural heritage and at the same time, to view the familiar from a different perspective. Although the ecological crisis transcends national boundaries, the conditions such as the physical, political, economic, social and cultural which vary from nation to nation, play very important roles in sustainable development and consequently, in an understanding of education for sustainable development for that particular country. This point has been well pointed out in Bonnet's (1999) assertion that ecological problems and their solutions are "historically, geographically and culturally local" (p.319). Nevertheless, the local environmental situation affects and is affected by a country's links or interrelationships with other nations. The links for example, between the Philippines and Canada or with other countries be it in trade or culture, may in some way, be part of the environmental problem or part of the solution. My understanding of the local enhances my understanding or way of looking at the global situation. According to Fien (1993), "The global perspectives especially on local issues, that education for sustainable development seeks to develop is often summed up under the rubric of 'think globally-act locally" (p.43).

This research journey has led me to view education in a different light. I have come to view education as always a striving towards sustainable development, an emancipation from the calculating and dominant aspects of ideology, technology and tradition which obscure our interpretations of our relationship with our environment, and a continuous transformation of our understandings of ourselves in relation to the world and to life.

Finally, as an ESD educator and researcher, with my co-participants' words always ringing with a hopeful note, I have come to regard education for sustainable development as a vision of hope for the world and for life. As Joanna Macy, the inspiring Buddhist teacher for personal peace reminds us, a deep understanding of the pervasive realities of violence, suffering and ecological destruction should not leave us in despair (Macy, 1983). There are creative and effective educational strategies to cultivate hope and empowerment. In her most recent book, Macy (1998) suggested the metaphor of "coming back to life."

> *We can choose life. Dire predictions notwithstanding, we can still act to ensure a livable world... we can meet our needs without destroying our life support system... to choose life means to build a life-sustaining society (p.16)*

The Way Ahead: Some Institutional Possibilities for ESD

The question of whether in a hermeneutic study, recommendations could be offered towards the formulation of policy surfaced as I reflected on the significance of the research. Gallagher's (1992) discussion of the nature of prescriptives as one aspect of local hermeneutics is very instructive in the attempt to resolve this issue. In putting forward his notion of a local hermeneutics, Gallagher points to the limitations of a universal philosophical hermeneutics as stemming from its principles and their universality. For example, he notes that "even if all interpretation is linguistic, there is no universal language; even if all interpretation is bound by traditions, there are no universal traditions; even if all interpretation is productive, all interpretations are not productive in the same way" (p.332). Based on these principles, recommendations in the nature of telling people what to do lose their essential ground.

However, following Gallagher's (1992) argument that all interpretation is local, the notion of prescriptive hermeneutics as one aspect of local hermeneutics finds its rationale in:

> If on the universal level philosophical hermeneutics tells us that we can not help but be caught up within traditions, linguistic practices and power structures, and that in and through our interpretations we transform these constraints and ourselves, then prescriptives appear necessary simply on the basis that we tend to want to organize our lives and pursue objectives in and through our interpretive experiences (p.337).

Gallagher further asserts that local hermeneutics is modeled after *phronesis* which is "a purely prescriptive judging without appeal to theoretical criteria" (p. 340) hence, justice is determined "case by case." He claims that the prescriptions grounded on *phronesis* are "dangling prescriptives" because they are developed "case by case" although the ability to make judgments is due to our access to already fixed frameworks which in the Aristotleian dimension is called *hexis* or an *ethos* or educational experience (p.340). This is the model for Freire's work in designing educational programs for liberation.

Guided by *phronesis*, this study did not attempt to bring recommendations in a manner expressed as absolutes. Grounded on local hermeneutical conditions, it is based on the model of "*petit* narratives" or "temporary contracts" which calls for a "temporary consensus" (p.339) that is eventually cancelled as the situation changes. Thus, the institutional possibilities presented in this section are based on the participants' understandings of how to transform their experiences and realities in the practice of ESD which had been dependent on the hermeneutic situation.

In this hermeneutic exploration of what ESD means, my co-participants have identified some dilemmas and contradictions in their realities as ESD educators. How do the contradictions show directions for educators? First, a recognition of the existence of these contradictions creates a condition for improved practice. The challenge posed by these contradictions motivates ESD teachers to seek ways to deal with them by engaging in critical reflection or dialogue. Secondly, among policy-makers and administrators, an awareness of the contradictions helps them to show more compassion for others. It moves them to provide for adjustments to meet other people's needs by instituting changes in policy or by being more considerate in its implementation. Knowing the circumstances that lead to the experience of contradictions, a person enlarges his sphere of understanding which could lead to more meaningful and peaceful relationships with others. Finally, in cases where the contradictions seem to be irresolvable within the prevailing context, a recognition of this situation encourages educators to learn to live with them without inflating their effects. It leads them to seek different routes or to view them from a different vantage point. It may surprise them to discover more productive ways of doing things.

In this study, education for sustainable development tells the experiences of Filipino tertiary teachers and their relationship with the earth, and how they think they ought to live in it in a just and peaceful way. These experiences unfolded in their homes, in the educational institutions which constitute their workplaces and in the wider community. As ESD educators, my co-participants felt that ESD is not only to be taught but also to be practised and lived and integrated into their being. It is a responsibility that permeates their personal and professional lives.

In our conversations, my co-participants interpreted ESD in the light of their institutional realities as well as their personal and professional experiences. From the conversations, contradictions were noted in the practice of ESD in their institutions and in the wider community. For example, the vision-mission of both institutions reflected ESD goals such as caring for the environment. However, Kris expressed a felt need to reconceptualize the vision-mission which poses possibilities for a greening of the vision-mission of SMU implying that a more explicit statement of ESD goals would show a clearer direction for the institution. In a similar light, Joyce and Tina, while affirming the strides gradually taken by SPSC towards the attainment of its goals, pointed out that there were still several spaces that definitely needed considerable attention. Arlene and Sarah alluded to possibilities for South Plains State College, to make the "clean and green" slogan a reality. With their Colleges of Forestry, Agriculture and Fisheries, the potential is great for a greening of its campus. Highlighting the role of academe towards the goal of ESD and the need to involve other sectors like NGOs, the media, government agencies, other organizations and institutions, and the basic communities, Alex hinted at the possibility of Saint Mary's University to provide the necessary leadership and coordination in the promotion of ESD and to serve as a center of conscientization in the area. His department had initiated some research projects involving some communities and had been toying with the idea of organizing a seminar on Muslim women and development, an attempt to bring his vision of a conscientizing process in his institution. Likewise, Alex articulated his view of the possibility of adopting changes and making some adjustments in the curricular offerings and methods of teaching to ensure the success of implementing an ESD program. The contradictions perceived by some of the participants concerning their institution's ESD goals as embodied in their Vision-Mission were also regarded as bringing forth possibilities for the inclusion of ESD in institutional policy and to respond to the call for change.

Constraints and contradictions in the integration of ESD in the current curricular structure and conditions in their institutions were brought out by most of the participants. An awareness of these constraining factors however, has enabled them to focus on possibilities to overcome them. For instance, the problem of integration of ESD concepts brought forth the idea of syllabi revision in SMU and a plan to add a 3-unit Environmental Science course in SPSC. Likewise, it led to the preparation or revision of materials like modules and workbooks for the infusion of ESD concepts in SMU or the links with government agencies like the DENR which could share their resources in SPSC. Estela and Jerry of SMU and Ali of SPSC commented that the contradictions spawned by the system of education often lead them to devise ways that would enhance democratic participation and insure better learning for students. The need for a more holistic framework in the implementation of ESD was voiced out by Fatima adding that this research when completed could bring valuable insights as to how to develop and implement an ESD program in a particular institution and possibly offer significant information to other educational institutions and other departments and agencies in carrying out ESD projects or activities.

A dilemma that was identified by Jerry involved the work load of some teachers and their desire to be more effective ESD educators. Some of them felt that this dilemma was not only true to them and their institutions. It was also reflective of other individuals in other workplaces where individuals' economic needs were not adequately met. Furthermore, ESD can not be viewed divorced from the political, social, economic, cultural and spiritual dimensions. But according to Jerry, this need not be interpreted within a bigger frame. Reforms in education can start within teachers themselves. He believed that through reflective practice and meditation, teachers could engage with their own contradictions critically and constructively. For him, the practice of ESD calls for its integration into everyday experiences so that it can be a part of a person's being. This brings to light how teachers' personal situations intersect with their professional lives and this too, begs attention from school administrators and authorities. At the same time, as articulated by Jerry, it presents possibilities for critical self reflection and understanding.

Advocating the adoption and practice of sustainable lifestyles as an aspect of ESD amidst the sweeping tide of globalization and a growing consumerist culture presented a dilemma for some of my co-researchers like Estela, Fatima, Jerry and Teresa. Promoting self-reliance and simplicity, they recognized the challenge posed by the current wave of materialism and the lure of modernization. However, this dilemma generated possibilities for them as ESD educators to cope with the changing times. Reflecting on this issue in relation to her questioning of the meaning of success and the good life, Estela probed into the possibilities of coping with the powerful impact of a consumerist trend by focusing on the small "doable" things and by serving as a model to her students in terms of sustainable practices and lifestyles. On a related note, a greater focus on ecological values was a possibility underscored by Fatima in her exploration of responding to the effects of globalization and modernization. Thus, in responding to the local-global dilemma, a few of the participants saw possibilities to critically reflect on current practices and lifestyles and to seek ways as well as to consider alternative perspectives towards a broader understanding of the impact of globalization on a Third World country's process of development.

The government discourse on sustainable development disclosed several contradictions. Many of the participants claimed that government always stressed the need to protect the environment and to alleviate poverty in the development programs implemented by various departments and units. This is best exemplified by Philippines 2000 and the official claim that the country would be a "green tiger." The conversations revealed however, that the development strategy being adopted shows the emphasis on economic growth which in turn, results in the extraction of more resources leading to resource depletion and environmental degradation and ultimately to a widening gap between the rich and the poor. The contradictions, as pointed out by most of the participants, open up spaces for them to explore, problematize and critically analyze the structure of development programs and projects as well as environmental laws and their enforcement. Teresa, Kris and Alex have noted the efforts of NGOs and POs in their advocacy campaigns for environmental care and supporting related causes such as protesting against the violation of human rights. Proposing the involvement of the different sectors in society, Alex brought forth the possibility of academe working side by side with the government and NGOs in the promotion of ESD so that SD becomes the centerpiece of every sector in their activities and projects. This idea is an apt response to the charge of a lack of coordination among agencies involved in the promotion of ESD. With academe providing ESD leadership, there are possibilities for the raising of the level of consciousness of the various sectors especially towards an understanding of environmental care and the underlying causes of poverty. Likewise, with an informed and enlightened group from the academe, the possibility of bringing a voice to the halls of policy-making bodies could, in one way or another, bring another perspective to be considered in the process of decision-making and policy formulation. Furthermore, in advocating for curricular reforms, Jerry alluded to the inclusion of the economic, social, political and spiritual dimensions of SD. This brings possibilities for students to evaluate government programs as they relate to the protection of the environment and the process of development.

An important consideration in the course of this hermeneutic inquiry is that through conversation, reflection and dialogue, the participants have come to a better understanding of themselves as ESD educators. Most of my co-research participants expressed the possibilities of exploring other issues through conversation which would enable them to share their ideas and experiences and gain an enlarged understanding of themselves and their role as ESD educators. The need to broaden and deepen their insights to empower them to be able to teach ESD more creatively and effectively was articulated by most of the participants. A contradiction in the concept of personal and public responsibility as revealed in the conversations likewise, calls for a dialogue or forum to clarify issues of identity and citizen responsibility. On this score, Alex raises possibilities with his underscoring of the significant role of the Peace Education Center in SMU in catering to the needs of teachers in terms of training or resources. The teachers' expressed needs bring the possibility of an expanded role for the Peace Education Center of SMU. As Peace Education and Education for Sustainable Development are encased in similar frameworks, tapping the resources and potential of the Peace Education Center to serve the ESD needs of the two institutions in terms of training or project implementation was a possibility implied by Alex and Teresa of SMU. With the Peace Education Center coordinating with other environmental advocacy groups as well as with sectors involved in peace-building, most of the participants considered the possibility of the center to fulfill a most significant role in the region. Having established linkages with NGOs and POs, the center was regarded by some of the participants from SMU as bringing possibilities for them to link with other organizations including development organizations in parallel South contexts and even in North countries like Canada. They foresaw the possibility that through networking, they can share information, ideas and resources with other educators and development workers in South and North countries which could be facilitated with the center's access to electronic technology. As articulated by Jerry, the idea of "building human bridges" through communication and sharing, as demonstrated in this research experience, bring possibilities for an education for sustainable development in both North and South contexts aimed at the common goal of caring for the earth.

The role of the administration in addressing problems especially in the implementation of an educational thrust has been mentioned in our conversations. Tina presented her observation that administrators often do not welcome a program or project if they do not know much about it, so they do not lend support to its successful implementation. Tina proposed the idea of administrators attending seminars, too, with the argument that a better understanding of the rationale behind the program brings possibilities of greater administrative support which she projected as a possibility to bring about considerable attention to the institution's needs in terms of infrastructure, resources and organizational climate. The involvement of school administrators, in Tina's projection, brings greater possibilities for needs and concerns to be brought to a larger forum which insures increased chances of positive action and resolution.

A point that bears significance in the integration and practice of ESD in the two institutions is the way traditions, shown in prevailing practices and established routines and the experience of contradictions in implementation tended to be strong oppositional forces in the teachers' struggle to bring about change or innovations. However, a recognition of the existence of paradoxes, dilemmas and contradictions also projected opportunities for the participants to critically reflect on possibilities to deal with these constraints in constructive and creative ways. This study indicates that the direction of the participants' understandings of ESD shows traces of transcending a technical conception towards an appropriation of its broader ontological dimension.

As ESD educators and co-participants in the research, we felt the need to leave the conversation open towards other ideas, perspectives and further questions. In my last conversation with each of my co-participants, I was told of the impact this research experience had on them. The sharing of experiences and reflections brought other ways of viewing the question which led to further questions and deeper reflection. In expressing my gratitude to my co-research participants, I was touched by their expression of gratitude as well. We vowed to advance the conversation and keep it going. In my reflections, I felt that as I came to a greater awareness of my responsibilities as an ESD educator, I also held a stronger conviction that there is hope for the earth and for life.

> *The circles gave birth to new circles as they moved outward. The pace has slowed down. I can now make out the blueness of the sky, the outlines of the trees and the clouds. The water swayed gracefully as the wind bade goodbye.*

The Pond Beckons

At this juncture in this research journey, I feel the need to look back and reflect on the hermeneutic experience. ESD has become a part of my life as the experience encompasses the whole ESD story. In my recollections, I bring images of how the question emerged and how it got sharpened by the events which unfolded in my home country at that time. The opportunity to pursue this research quest back in my homeland made possible through a grant from Asia-Pacific Foundation of Canada, brought forth a renewed enthusiasm and determination to explore what I thought would answer the question.

Although hermeneutics as a mode of inquiry was quite new to me having had only a brief encounter with a few of its advocates in my experience as a teacher of Filipino literature in my homeland before I relocated to Canada, I was drawn to it in a way that it presented something different, something that I felt I had always wanted to explore.

Hermeneutics offers a way of exploring meanings, of making interpretations and its being intertwined with language made it more appealing to me. I welcomed the idea of using hermeneutics in this research for I was convinced that it was most appropriate in the conduct of the study. I explored the literature on hermeneutics particularly the writings of Gadamer from which I drew the hermeneutical principles that guided this research.

Back in the Philippines to collect my data, I had assumed I was treading on very familiar grounds. My co-researchers and my host institution demonstrated the Filipino hospitality so familiar to us and this seemed to ease the unfamiliarity and the newness of the place which I was visiting for the first time. Through hermeneutic conversations, we went through the process of exploring meanings by bringing our narratives of our lived realities and experiences. In my reflections, I noted the paradoxes, contradictions and dilemmas that were embedded in the stories. As my co-participants and I shared experiences, I came to a deeper understanding of the earth and my environment. The many issues that were brought out in the conversation strengthened my moral conviction that something must be done to avert the tide of ecological plunder that had brought the country into its deteriorating situation.

Our own understandings of ESD have opened many possibilities for us, as educators. Likewise, they opened possibilities for institutions to play a major role in stimulating teachers to explore issues of personal and social responsibility to care for the earth. As ESD educators, my co-researchers saw the possibility of assuming an initiator role and being mindful of people's interconnectedness, felt the possibility of infusing into their pedagogical practices, the many principles and aspects of ESD. They also articulated possibilities of enhancing their creativity in collaboratively designing ESD activities that would not only be confined to their classrooms but would establish linkages with the wider community. In this vision, as teachers and collaborators in the research, we bring ESD as an alive and dynamic experience, not as abstract and fragmented knowledges so characteristic of our compartmentalized curricular frameworks. In Jerry's words, "ESD starts with the cry to transform education." ESD, if it has to have any meaning at all, must be taught, practised and lived in a holistic and integral way.

I also find possibilities in partnerships with my new-found friends, my co-participants in this research journey to network even with the geographical distance that separates us, in influencing local, national and international policies and relationships with and outside Canada. For example, I do believe that Canadian relations with South regions can be made more sustainable and equitable.

Most importantly, there are lessons to be drawn from this research experience. In the writing of this thesis, I was confronted with the contradictions and dilemmas that the process generated. Initially, the difficulties, confusion and frustrations that I experienced stirred a desire to probe into the theoretical foundations that could justify their existence. However, in the end, my hermeneutical reflections enabled me to come to terms with the need to engage constructively with these contradictions. For life in itself, is a cycle of contradictions, of birth and death, of winter and spring, of pain and healing. In this research encounter, engaging peacefully with its paradoxes and dilemmas represents the lessons of a lifetime, of how to live sustainably in this world, and the possibilities of a sustainable tomorrow.

I also wish to pay homage to my co-researchers who have left an indelible imprint in this research quest and whose commitment and dedication to education shone even in the midst of frustrating realities. Their voices always rang with a hopeful note as they wove their visions and aspirations with a faith so strong and unyielding. This was the light that emerged from my vantage point. It was like seeing truth, beauty and goodness unfolding. From this perspective, one visualizes humanity at its finest. Indeed, there is hope for the earth and for life.

At this stage of this research journey, I feel a compelling urge to bring this quest to an appropriate conclusion. Having been attuned to weaving happy endings to every story, I find the desire to resolve the question very tempting. However, mindful of the hermeneutic priority of the question and aware of the finitude of human understanding, I recognize a stronger need to leave the conversation open for further engagement with other ideas and further questions. My co-research participants and I extend this invitation to our Earth kin to join us in this ongoing task of interpretation and dialogue. The following questions pressed upon me as I contemplated on the research experience. How can teachers constructively deal with their experiences of contradictions in such a way that they become possibilities and serve as catalysts for transforming educational institutions towards the goal of education for sustainable development? How can ESD be more dialogically designed to be able to respond to the various forms of negotiation involving ESD teachers' identity and pedagogy?

> ***A gentle breeze caressed the swirling currents giving birth to new, tiny bubbles. Life stirred in the pond as the sun's rays flirted with the water.***

BIBLIOGRAPHY

Adams, C.J. (1993). Introduction. In A.C. Adams (Ed.), *Ecofeminism and the sacred* (pp.1-9). NY: Continuum.

Alexander, T. M. (1997). Eros and understanding: Gadamer's aesthetic ontology of the community. In L. E. Hahn (Ed.), *The philosophy of Hans-George Gadamer* (pp.323-345), Chicago: Open Court Publishing Co.

Alianza, H. P. (1991). Land tenure security for tribal Filipinos. In ANGOC et al *Grassroots actions in natural resources management* (pp.75-97). Metro Manila: Asian NGO Coalition for Agrarian Reform & Rural Development.

Alibutud, J. R. (1990). Rough winds over Calancan bay. In E. Gamalinda (Ed.), *Saving the earth: The Philippine experience* (pp. 61-73). Metro Manila: Philippine Center for Investigative Journalism.

Alperovitz, G.(1996). Sustainability and the system problem. In D. Pirages (Ed.), *Building sustainable societies: A blueprint for a post-industrial world* (pp.55-67). NY: M.E. Sharpe.

Anti-Slavery Society. (1983). *The Philippines: Authoritarian government, multinationals and ancestral lands.* London: Anti-Slavery Society.

Arguillas, C. (1996, August 31). Mindanao accord inked; Davao is out. *Philippine Daily Inquirer,* pp. 1, 11.

Arguillas, C. (1996, Sept. 1). Grand party set for pact signing. *Philippine Daily Inquirer,* pp. 1, 5.

Arquiza, Y. (1990). People or power. In E. Gamalinda (Ed.), *Saving the earth: The Philippine experience* (pp.33-46). Metro Manila: Philippine Center for Investigative Journalism.

Arquiza, Y. (1996). The Tubbataha controversy. In E. Gamalinda (Ed.), *Saving the earth: The Philippine experience* (pp. 47-59). Metro Manila: Philippine Center for Investigative Journalism.

Arrest Marcopper execs, Marinduque court orders. (1996, August 15). *Philippine Daily Inquirer,* p.2.

Asian NGO Coalition for Agrarian Reform & Development (1990). Study tour issues, findings and recommendations. In ANGOC, *Grassroots actions in natural resources management* (pp.1-7). Manila: ANGOC.

Baldwin, R. (1995). Does sustainability require growth? In I. Goldin & L. Winters (Eds.), *The economics of sustainable development.* Cambridge: OECD.

Ballantyne, R., Witney, E. & Tulip, D. (1998). Developing students' environmental knowledge through interactive worksheets. *International Journal of Environmental Education and Information, 17* (1), 1-16.

Bandiola, O. (1995, September 11). Panay deforestation to dry up four provinces. *Philippine Daily Inquirer,* p.17.

Barnaby, F. (Ed.). (1988). *The Gaia peace atlas.* New York: Doubleday.

Barnet, R. & Cavanaugh, J. (1996). Homogenization of global culture. in J. Mander and E. Goldsmith (Eds.), *The case against the global economy: And for a turn toward the local* (pp.71-77). San Francisco, CA: Sierra Club Books.

Bartelmus, P. (1995). Toward a system of integrated environmental and economic accounts. In J. Milan & J. Shogren (Eds.), *Integrating economic and ecological indicators.* Westport: Praeger.

Batario, R. (1990). Isabela: Powerful clan controls logging industry. In E. Gamalinda (Ed.) *Saving the earth: The Philippine experience* (pp.25 -31). Metro Manila: Philippine Center for Investigative Journalism.

Bell, A.C., Russell, C. L. & Plotkin, R. (1998). Environmental learning and the study of extinction. *The Journal of Environmental Education, 29* (2), 4-9.

Bello, W. (1993). Revisioning Philippine industrialization. *Philippine Alternatives 1* (3), 10-13.

Bello, W. & Rosenfield, S. (1990). *Dragons in distress: Asia's miracle economies in crisis.* SanFrancisco: Institute for Food and Development Policy.

Berg, B. (1995). *Qualitative research methods for the social sciences* (2nd ed.). Boston, Mass: Allyn & Bacon.

Bernard, T. & Young, J. (1997). *The ecology of hope: Communities collaborate for sustainability.* Gabriola Island, BC: New Society Publishers.

Berry,T. (1988). *Dream of the earth.* San Francisco,CA: Sierra Club Books.

Bhaba, H. (1990). The third space. In J. Rutherford (Ed.), *Identity, community, culture, difference.* London: Lawrence & Wickert.

Bhaskar, V. & Glyn, A. (1995). Introduction. In V. Bhaskar and A. Glyn (Eds.), *The north, the south and the environment: Ecological constraints and the global economy.* London: United Nations University Press.

Bogdan, R.C. & Bilken, S. K. (1992). *Qualitative research for education: An introduction to theory and methods.* (2nd ed.). Boston: Allyn & Bacon.

Bonnett, M. (1999). Education for sustainable development: A coherent philosophy for environmental education? *Cambridge Journal of Education 29* (3), 313-324.

Booth A. L. (1998). Caring for nature 101, or alternative perspectives on educating natural resource managers and ecologically conscious citizens, *The Journal of Environmental Education 29* (3), 4-9.

British Columbia Round Table on the Environment and the Economy. (1993). *Strategic directions for community sustainability.* Victoria: BCRTEE.

British Columbia Round Table on the Environment and the Economy. (1993). *Towards sustainability: Learning for change.* Victoria: BCRTEE.

Britzman, D. (1991) *Practice makes practice: A critical study of learning how to teach.* NY: SUNY Press.

Brown, L. (1991). The new world order. In *State of the world 1991: A worldwatch institute report on progress toward a sustainable society* (pp.,3-20). New York: W. W. Norton & Co.

Brown, L. R., Flavin, C. & Postel, S. (1993). A planet in jeopardy. in R. Jackson (Ed.), *Global issues 93/94* (pp.73-75). Connecticut: Dushkin Publishing Group, Inc.

Brundtland, G. H. (1988). Introduction: Civilization in crisis. In F. Barnaby (Ed.), *The Gaia peace atlas.* (pp.94). New York: Doubleday.

Brundtland, G. H. (1987). Foreword. In L. Timberlake *Only one earth.* (pp.7-9). New York: Sterling Publishing Co. Inc.

Caduto, M. (1998). Ecological education: A system rooted in diversity. *The Journal of Environmental Education,* 29 (4), 11-15.

Caldecott, J. O. (1995). Ethical policy and economic context of protecting biodiversity. *IESAM Bulletin, XVI* (1-2), 5-8.

Canuday, J. (1999, May 1). Six Mindanao regions have most child deaths, government data show. *Philippine Daily Inquirer,* p.1.

Cardinoza, G. (1996, August 10). Fight vs. Bolinao cement: A learning experience. *Philippine Daily Inquirer*, p.18.

Carley, M. & Christie, L. (1995). *Managing sustainable development.* Minneapolis: University of Minnesota Press.

Carson, R. (1962). *Silent spring.* Boston: Houghton Mifflin Co.

Carson, T. R. (1985). *A hermeneutic investigation of the meaning of curriculum implementation for consultants and teachers.* Unpublished doctoral dissertation. University of Alberta.

Carson, T. R. (1986). Closing the gap between research and practice: conversation as a mode of doing research. *Phenomenology and Pedagogy, 4* (12), 73-85.

Catholic Bishops Conference of the Philippines. (1988, January) . What is happening to our beautiful land? *Pastoral letter on ecology.* Manila: CBCP.

Cernea, M. (1993). The sociologist's approach to sustainable development. *Finance and Development,* 11-13.

Charles, G. (1993). Hobson's choice for indigenous peoples. In R. Jackson (Ed.) *Global issues 93/94* (pp. 47-49). Connecticut: Dushkin Publishing Co.

Civic welfare service program (CWSP) laucnhed. (1996, July). *Academic Internet.* Cotabato City: NDU.

Commission on Higher Education. (1994). Excellence in higher education towards global competitiveness. *CHED Brochure.* Metro Manila: CHED.

Conca, R. (1996). Peace, justice and sustainability. In D. Pirages (Ed.) *Building sustainable societies: A blueprint for a post-industrial world* (pp.17-31).NY: M.E. Sharpe

Constantino, R. (1966). *The miseducation of the Filipino.* Manila: Erehwon.

Cristobal, A. (1996, Aug. 15).Standing prejudices and the SPCPD. *Philippine Daily Inquirer,* p.8.

Dahlberg, K. A. (1996). World food problems: Making the transition from agriculture to regenerative food systems. In D. Pirages (Ed.), *Building sustainable societies: A blueprint for a post-industrial world* (pp. 257-274). NY: M. E. Sharpe.

Daing, M.T. D. (1994). Some notes on the Mindanao development framework. *Bantaaw, 7* (5), 1-8.

Daly, H. E. (1996). Physical growth versus technological development: Odds in the sustainability race. In D. Pirages (Ed.), *Building sustainable societies: A blueprint for a post-industrial world* (pp. 167-173). NY: M. E. Sharpe.

Dancel, R. C. (1999). More Filipinos jobless. *Philippine Daily Inquirer* [On-line]. Available: http://www.inquirer.net

Davis, T. (1996). *What is sustainable development?* [On-line] Available: One World.

De Guzman, P. R. & Reforma, M.A. (1988). *Government and politics of the Philippines.* Singapore: Oxford University Press.

De la Court, T. (1992). Critique of the dominant development paradigm. *Journal of SID 2,* 42-45.

De la Paz, R. (1990). Cagayan: Logging and political power. In E. Gamalinda (Ed.), *Saving the earth: The Philippine experience* (pp.9-14). Metro Manila: Philippine Center for Investigative Journalism.

De la Rosa, R.J. (1996). Bringing reality closer to the dream. *Bantaaw 9,* (1) 1-8.

DENR-DECS. (1992,March). *Final report: Study on environmental education. Vol.2* (Asian Development Bank T.A. No. 1385-P111) Metro Manila: DENR.

DENR-DECS. (1992, May). *Final report: Study on environmental education. Vol 1, The national environmental education action plan.* (Asian Development Bank T.A. No. 1385-P111). Metro Manila: DENR.

Department of Environment and Natural Resources. (1989). *Philippine strategy for sustainable development: A conceptual framework.* Metro Manila: DENR.

Devall, B. (1995). The ecological self. In A. Drengson & Y. Inoue, (Eds.), *The deep ecology movement: An introductory anthology.* (pp.101-123). Berkeley,CA: North Atlantic Books.

Devlin, J. & Yap, N. (1994). Sustainable development and the NICs: Cautionary tales for the south in the new world (dis)order. *Third World Quarterly 15* (1), 49-61.

Drengson, A. (1995). Shifting paradigms: From technocrat to planetary person. In A. Drengson & Y. Inoue (Eds.), *The deep ecology movement: An introductory anthology* (pp. 74-100). Berkeley, CA: North Atlantic Books.

Dudley, M.K. (1996). Traditional native Hawaiian environmental philosophy. In E.R. Gottlieb (Ed.), *This sacred earth: Religion, nature, environment* (pp. 125-130). NY: Routledge.

Durning, A. (1991). Asking how much is enough. In L. Brown, et al. *State of the world 1991: A worldwatch institute report on progress toward a sustainable society* (pp.153-169). New York: W.W. Norton & Co.

Dwivedi, O.P. (1996). Satyagraha for conservation: Awakening the spirit of Hinduism. In E.R. Gottlieb (Ed.), *This sacred earth: Religion, nature, environment* (pp. 151-163). NY: Routledge.

Earth summit fails to save environment. (1996, October 12).*The Philippine Daily Inquirer.* p. B6.

Ehrlich, A.H. (1996). Toward a sustainable global population. In D. Pirages (Ed.), *Building sustainable societies: A blueprint for a post -industrial world* (pp.151-165). NY: M.E. Sharpe.

Emmelin, L. (1986). The content of university teaching on environmental problems (II). In UNESCO and the International Association of Universities, *Universities and environmental education* (pp.55-74). Paris: UNESCO.

Emmons, K. M. (1997). Perspectives on environmental action: Reflection and revision through practical experience. *The Journal of Environmental Education, 29* (1), 34-44.

Encyclopedia of World Geography (1994). *Southeast Asia* (Vol.21). NY: Marshall Cavendish.

Enrolment profile for SY 1996-97. (1997). *Balinghad,* 1 (2), pp.6-7.

Esplanada, J. (1999). *Vanishing treasures: Rare plant species neglected.* [On line]. Available: http/www.inquirer.net.

Farmers who use pesticides prone to illness, says study (1993, July 14). *The Manila Chronicle*, p.3.

Feldman, A. (1999). The role of conversation in collaborative action research. *Educational Action Research 7* (1).

Fien, J. (1990). Environmental education: A perspective for teacher education. *Journal of the World Council for Curriculum and Instruction, IV* (1), 30-39.

Fien, J. (1993). *Education for the environment: Critical curriculum theorizing and environmental education.* Victoria: Deakin University.

Fien, J. (1995). Teaching for a sustainable world: The environmental and development education project for teacher education. *Environmental Education Research, 1* (1), 21-33.

Fien, J. & Trainer, T. (1993). A vision of sustainability. In J. Fien (Ed.), *Environmental education: A pathway to sustainability* (pp.24-32). Victoria: Deakin University.

Floresca-Cawagas, V. & Toh, S. H. (1989) Peace education in a land of suffering and hope: Insights from the Philippines, *Convergence 22* (1), 11-23.

Foundation for Nationalist Studies (1991). *A Filipino vision of development.* Metro Manila: FNS.

Fox, W. (1995). Transpersonal ecology and the varieties of identification. In A. Drengson & Y. Inoue (Eds.), *The deep ecology movement: An introductory anthology* (pp.136-154). Berkeley, CA: North Atlantic Books

Freire, P. (1974). *Education for critical consciousness.* NY: Continuum.

Gadamer, H. G. (1988). *Truth and method.* NY: Crossroad Publishing Co.

Gadamer, H. G. (1997). Reflections on my philosophical journey. In L.E. Hahn (Ed.), *The philosophy of Hans-George Gadamer.* Chicago: Open Court.

Gall, M., Borg, W. & Gall, J. (1996). *Educational research: An introduction.* NY: Longman.

Gallagher, Shaun. (1992). *Hermeneutics and education.* Albany, NY: SUNY Press.

Garcia, M. B. (1994). *Social problems in the Philippine context.* Metro Manila: Navotas Press.

Gardner, R. N. (1992). *Negotiating survival: Four priorities after Rio.* NY: Council on Foreign Relations Press.

George, S. (1986). *How the other half dies: The real reasons for world hunger.* London: Penguin Books.

George, S. (1987). *Fate worse than debt.* Ringwood: Penguin.

Goldsmith, E. (1996) Global trade and the environment. In J. Mander & E. Goldsmith (Eds.), *The case against the global economy: And for a turn toward the local* (pp.78-91). San Francisco: Sierra Club Books.

Goodland, R. (1996). Growth has reached its limits. In J. Mander & E. Goldsmith. (Eds.), *The case against the global economy: And for a turn toward the global* (pp.207-217). San Francisco: Sierra Club Books.

Goodland R. & Daly, H. (1992). Three steps towards global environmental sustainability (Part 1). *Journal of SID 2,* 35-41.

Gore, Al (1992) *Earth in the balance: Forging a new common purpose.* London: Earthscan.

Gough, S. Oulton, C. & Scott, W. (1998). Environmental education, management education and sustainability: Exploring the use of adaptive concepts. *International Journal of Environmental Education and Information, 17* (4), 367-379.

Goulet, D. (1996). Authentic development: Is it sustainable? In D. Pirages (Ed.), *Building sustainable societies: A blueprint for a post-industrial world* (pp.189-205). London: M.E. Sharpe.

Graf, W. (1992). Sustainable ideologies and interests: Beyond Brundtland. *Third World Quarterly 13,* 553-559.

Grondin, J. (1990). Hermeneutics and relativism. In K. Wright (Ed.), *Festivals of interpretation: Essays on Hans-George Gadamer's work.* Albany: SUNY Press.

Guiang, E.S. (1993). Community-based forest management: Its evolution, emerging prototypes, and experiences from the Philippines. *IESAM Bulletin XIII* (3-4), 7-11.

Habito, C. (1996). Preface. In PCSD, *Philippine agenda 21* (pp.iv-v). Metro Manila: PCSD.

Hall, S. (1990). Cultural identity and diaspora. *Framework* (36), 223-237.

Halstead, T. & Cobb, C. (1996). The need for new measurements of progress. In J. Mander & E. Goldsmith (Eds.), *The case against global economy: And a turn toward the local* (pp. 197-207). San Francisco: Sierra Club.

Harper, P. & Peplow, E. (1991). *Philippines handbook.* Chico, CA: Moon Publications.

Hart, W. (Ed.). (1991). *Sustainable urban and industrial environmental management-Philippines* (USAID Project No. 492-0463).

Hasan, M. S. (1990). BRAC: Protecting ecology and alleviating poverty. In ANGOC Report, *Grassroots actions in natural resources management* (pp.20-30), Manila: ANGOC.

Hawken, P.(1996). A teasing irony. In R. Welford & R. Starkey. (Eds.). *Business and the environment* (pp.5-16), Washington, D.C: Taylor and Francis.

Herrera, C. (1996, Oct. 12). Dead fish choke bay. *Philippine Daily Inquirer,* p.1.

Hicks, D. (Ed.) (1988). *Education for peace: Issues, principles and practices in the classroom.* London: Methuen.

Hipolito, R. A. (1995). RP in better shape? *Bantaaw 8* (1-2), 1-12.

Hofer, J. (1990). Bukidnon: Local communities are up in arms. In E. Gamalinda (Ed.), *Saving the earth: The Philippine experience* (pp. 20-24). Metro Manila: Philippine Center for Investigative Journalism.

Howard, G. (1985). *Basic research methods in the social sciences.* Glenview: Scott, Foresman & Co.

Hughes, J. D. (1996). From American Indian ecology. In E.R. Gottlieb (Ed.), *This sacred earth; Religion, nature, environment* (pp.131-145). NY: Routledge

Hunt, J. (1993). Protecting coral reefs: Eco-fishing in the Philippines. [On-line] Available: IDRC Home Page.

Imber, M.E. (1994). *Environmental security and UN reform.* NY: St. Martin Press.

IUCN Inter-Commission Task Force on Indigenous Peoples. (1997). *Indigenous peoples and sustainability: Cases and Actions.* Utrecht: IUCN International Books.

Izzy Dean (Samarrai), M.Y. (1996). Islamic environmental ethics, law and society. in E.R. Gottlieb (Ed.), *This sacred earth: Religion, nature, environment* (pp. 164-173). NY: Routledge.

Jamieson, D. (1994). Global environmental justice. In R.Attfield & A. Belsey (Eds.), *Philosophy and the natural environment* (pp. 199-210). Cambridge: Cambridge University Press.

Jardine, D.W. (1998). *To dwell with a boundless heart: Essays in curriculum theory, hermeneutics and the ecological imagination* . New York: Peter Lang.

Kabilsingh, C. (1996). Early Buddhist views on nature. In E.R. Gottlieb (Ed.), *This sacred earth: Religion, nature, environment* (pp.147-150). NY: Routledge.

Kalaw, M. T., Jr.(1990). Philippine NGO"s role in sustainable development. In Green-forum Philippines. *Creating a common future: Initiatives for sustainable development..* Metro Manila: Green Forum -Philippines.

Kalaw, M. T., Jr. (1993). The call for a sustainable spirituality. *Philippine Alternatives 1* (3), 5-6.

Kalaw, M. T., Jr., Jordan, L. & Torres, A. M. (1991). An assessment of people's participation in environmentally sustainable development in the Philippines. In ANGOC, et al. *Southeast Asia regional consultation on people's participation in environmentally sustainable development* (pp.100-124). Manila: Asian NGO Coalition for Agrarian Reform and Rural Development.

Kastenholz, H. & Erdmann, K. (1994). Education for responsibility within the framework of UNESCO. *Journal of Environmental Education, 23* (2), 15-20.

Khor, M. (1996). Global economy and the third world. In J. Mander & E. Goldsmith (Eds.), *The case against the global economy: And for a turn toward the local* (pp.47-59). San Francisco: Sierra Club Books.

Kinsley, D. (1996). Christianity as ecologically harmful and Christianity as ecologically responsible. In R.S. Gottlieb (Ed.), *This sacred earth: Religion, nature, environment* (pp.104-123). NY: Routledge.

Korten, D.C. (1991). International assistance, development and the global system: Issues for southeast asia and beyond. In ANGOC et al. *Southeast Asia regional consultation on people's participation in environmentally sustainable development* (pp. 160-188). Manila: Asian NGO Coalition for Agrarian Reform and Rural Development.

Kumar, S. (1996). Gandhi's swadeshi: The economics of permanence. In J. Mander & E. Goldsmith (Eds.). *The case against the global economy: and for a turn toward the local* (pp.418-424). San Francisco: Sierra Club Books.

Laminero, C. (1996, October 11). Land reform beneficiaries up vs. "influential" landlords. *Mindanao Kris,* p.6.

Lao-Tzu. (1992). *Te-Tao Ching.* (R.G.Heuricles, Trans.). NY: Ballantine Books.

Lather, P. (1986). Issues of validity in openly ideological research: Between a rock and a soft place. *Interchange 17* (4), 63-84.

Latido, M. (1996). People's participation in environmental protection. *Education for Development Quarterly,* 5-9.

Lawless, R. (1992). Structural difficulties and development strategies in the Philippines. *Journal of Third World Studies, IX* (l), 6-21.

Lehman, K. & Krebs, A. (1996). Control of the world's food supply. In J. Mander and E. Goldsmith (Eds.), *The case against the global economy: And for a turn toward the local* (pp. 122-130). San Francisco: Sierra Club

Lincoln, Y.S. & Guba, E.G. (1985). *Naturalistic inquiry.* Newbury Park, CA: Sage.

Linden, E. (1997, November). A world awakens. *Time* 80-81.

Llorito, D. Ll. (1994). Who's afraid of Philippines 2000? *Bantaaw, 7* (1), 1-8.

Lopez, J. (1993). The tribal Filipinos quest for their ancestral lands. *Philippine Panorama.*

MacNeill, J. Winsemius, P. & Yakushiji, T. (1991). *Beyond interdependence: The meshing of the world's economy and the earth's ecology.* New York: W.W. Norton & Co.

Macy, J. (1983). *Despair and personal power in the nuclear age.* Philadelphia: New Society.

Macy, J. & Brown, M.Y. (1998). *Coming back to life.* Gabriola Island: New Society Publishers.

Magpantay, J. A. (1990). The Mount Apo geothermal project: An evaluation. *Mindanao Focus* (31), 1-27.

Mastura, M.O. (1979). A short history of Cotabato City and its historic places. In S. F. Millan (Ed.), *Cotabato city guidebook* (pp. 5-68). Gen Santos City: Victoria Press.

Matthews, F. (1995). Conservation and self-realization: A deep ecology perspective. In A. Drengson & Y. Inoue (Eds.), *The deep ecology movement: An introductory anthology* (pp.,124-135). Berkeley, CA: North Atlantic Books.

McCready, K. (1993). *The context for sustainable development.* Speech delivered during the Sustainable Development Workshop held on Oct. 26, 1993).

McDonagh, S. (1986). *To care for the earth.* Quezon City: Claretian Publications.

McGrath, K. (1992). Message. In EMB Conference Report, *In response to the earth summit: Implementing the Philippine agenda 21 for sustainable development.* Metro Manila: EMB.

Meadows, D., Meadows, D., Randers, J. & Behrens III, W. (1972). *The limits to growth.* New York: Universe Books.

Mearns, R. (1995) Environmental entitlements: Towards empowerment for sustainable development. In N. Singh & V. Titi (Ed.s), *Empowerment towards sustainable development* (pp. 37-53). Winnipeg: International Institute for Sustainable Development

Mehra, R. (1996). Involving women in sustainable development livelihoods. In D. Pirages (Ed.), *Building sustainable societies: A blueprint for a post-industrial world* (pp.207-225). Connecticut: Dushkin Publishing Group, Inc.

Mele, A. (1996). *Sustainable development: The next phase*. [On-line], Available E-mail: mele@earthpledge. org.

Milbrath, L. W. (1996). Becoming sustainable: Changing the way we think. In D. Pirages (Ed.), *Building sustainable societies: A blueprint for a post-industrial world* (pp. 275-297). NY: M.E. Sharpe.

Mincher, P. (1991).Where have all the fish gone? *Kinaiyahan Bulletin, 1* (8), 3-7.

Mine poison kept secret. (1996, October 18). *Philippine Daily Inquirer,* p.17.

Morris, D. (1996). Communities: Builiding authority, responsibility and capacity, In J. Mander & E. Goldsmith (Eds.). *The case against the global economy: And for a turn toward the local* (pp.434-445). San Francisco: Sierra Books.

Mueller-Vollmer, K. (1989). *The hermeneutics reader.* NY: Continuum.

Munasinghe, M. (1993). The economist's approach to sustainable development. *Finance and Development,* 16-19.

Munro, D.A. (1995). Sustainability: Rhetoric or reality? In T. Trzyna (Ed.). *A sustainable world: Defining and measuring sustainable development* (pp.28-35). Sacramento, CA: International Center for the Environment and Public Policy.

Naess, A. (1995). Self-realization: An ecological approach to being in the world. In A. Drengson & Y. Inoue (Eds.), *The deep ecology movement: An introductory anthology* (pp. 13-30). Berkeley, CA: North Atlantic Books.

Naess, A. & Sessions, G. (1995). Platform principles of the deep ecology movement. In A. Drengson & Y. Inoue (Eds.), *The deep ecology movement: An introductory anthology* (pp. 49-53). Berkeley, CA: North Atlantic Books.

Nader, R. & Wallach, L. (1996). GATT, NAFTA and the subversion of the democratic process. In J. Mander & E. Goldsmith (Eds.), *The case against the global economy: And for a turn toward the local* (pp. 92-107). San Francisco, CA: Sierra Club Books.

National Economic Development Authority. (1992). *Medium term Philippine development plan (1993-1998).* Metro Manila: NEDA.

NCSD Network. (1998). *NCSDs and the CSD: The way forward.* [On -line]: Available: http://www.ncsdnetwork.org

Neuman, W.L. (1991). *Social research methods: Qualitative and quantitative approaches.* Boston: Allyn & Bacon.

New Internationalist. (1993). Green justice: The facts. In R. Jackson (Ed.), *Global issues 93/94* (pp.18-19). Connecticut: NY: Dushkin Publishing Group, Inc.

Norberg-Hodge, H. (1996). Shifting directions In J. Mander & E. Goldsmith, (Eds.). *The case against the global economy: And for a turn toward the local* (pp.393-406), San Francisco: Sierra Club Books.

Norgaard, R. (1994). *Development betrayed.* London: Routledge.

Norse, D. (1993). A new strategy for feeding a crowded planet. In R. Jackson (Ed.),*Global issues 93/94* (pp. 85-96). Connecticut: Dushkin Publishing Group, Inc.

Nuyda, D.G. (1996, September 12). Development vs. environment. *Philippine Daily Inquirer*, p. D3

Odum, E. (1971). *Fundamentals of ecology.* Philadelphia: W.B. Saunders & Co.

Ophuls, W. (1996). Unsustainable liberty, sustainable freedom. In D. Pirages, (Ed.), *Building sustainable societies: A blueprint for a post industrial world* (pp.33-44). New York: Me. E. Sharpe.

Orr, D. (1992). *Ecological literacy: Education and the transition to a postmodern world.* Albany: State University of New York Press.

Overpopulation snags upland areas development. (1992, July 8).*Philippine Times Journal,* p.16.

Palmer, R,E, (1969). *Hermeneutics: Interpretation theory in Schleirmacher, Dilthey, Heidegger and Gadamer.* Evanston: Northwestern University Press.

Park, J. H. & Chang, N.K. (1998). The development and effects of a teaching strategy to foster environmental sensitivity. *International Journal of Environmental Education and Information, 17* (2), 167-178.

Patton, M. Q. (1990). *Qualitative evaluation and research methods.* Newbury Park, CA: Sage.

Pezzey, J. (1992). Sustainability: An interdisciplinary guide.*Environmental Values 1*, 321-362.

Philippine Council for Sustainable Development. (1996). Philippine agenda 21. Metro Manila: PCSD.

Pirages, D. (1996). Introduction. In D. Pirages (Ed.), *Building sustainable societies: A blueprint for a post-industrial world* (pp. 3-16). NY: M.E. Sharpe.

Pope John Paul II. (1996). The ecological crisis: A common responsibility. In R. S. Gottlieb (Ed.), *This sacred earth: Religion, nature, environment* (pp. 230-237). New York: Routledge.

Prance, G. T. (1990). Deforestation: A botanist's view. In D.J. R. Angell, J. D. Comer & L. N. Wilkinson (Eds), *Sustaining earth: Response to the environmental threats* (pp.52-59). London: Macmillan.

Pretty, J. N. (1990). Agricultural pollution: From costs and causes to sustainable practices. In D. J. R. Angell, J. D. Comer & L. N. Wilkinson (Eds.), *Sustaining earth: Response to the environmental threats* (pp.60-70). London: Macmillan.

Quarrie, J. (1992). *Earth summit 1992.* London: The Regency Press.

Quitoriano, E. (1995). The CIC master plan and its impact on the fisherfolk of Misamis Oriental and other issues. *Bantaaw 8,* (5-6) 1-12.

Quizon, A., Ravanera, R. & Ingles, D. (1991). Assessment of government policies on environment in four ASEAN countries. In ANGOC National and Regional Reports (Vol.II), *Southeast Asia regional consultation on people's participation in environmentally sustainable development.* (pp.142-159). Manila: ANGOC.

Ramos, F. V. (1993). *A call to duty.* Manila: Friends of Steady Eddie.

Ramos, F.V. (1995, February). Globally competitive Philippines: A message from the president. *Scientific American, 274* (2), 2-3.

Ramphal, S. (1990). Endangered earth. In D. Angelli, J. Comer & M. Wilkinson. (Eds.). *Sustaining earth: response to the environmental threats.* London: Macmillan.

Raymond, N. (1993). The "lost decade" of development: The role of debt, trade and structural adjustment. In R. Jackson (Ed.), *Global issues 93/94* (pp.112-121). Connecticut: Dushkin publishing Group, Inc.

Reardon, B. (Ed.) (1988). *Comprehensive peace education.* New York: Teachers CollegePress.

Redclift, M. (1984). *Development and the environmental crisis: Red or green alternatives.* London: Methuen.

Redclift, M. (1987). *Sustainable development: Exploring the contradictions.* London: Methuen.

Redclift, M. (1993). Sustainable development: needs, values, rights. *Environmental Values 2,* 3-20.

Reed, D. (1996). Sustainable development. In D. Reed (Ed.), *Structural adjustment, the environment and sustainable development* (pp. 25-45). London: Earthscan.

Rees, C. (1993). The ecologist's approach to sustainable development. *Finance and Development,* 14-15.

Reuther, R.R. (1993). Symbolic and social connections of the oppression of women and the domination of nature. In C. Adams (Ed.), *Ecofeminism and the sacred.* (pp.13-23). NY: Continuum.

Ricouer, P. (1981). *Hermeneutics and the human sciences: Essays on language, action and interpretation.* (J. B. Thompson, Ed. & Trans.). Cambridge: Cambridge University Press.

Rodman, J. (1995) Four forms of ecological consciousness considered. In A. Drengson & Y. Inoue (Eds.), *The deep ecology movement: An introductory anthology* (pp.241-256). Berkeley, CA: North Atlantic Books.

Rodriguez, F. (1995). *Decolonizing the Filipino mind: Freire's critical pedagogy and environmental education.* Paper Presented at the Second ASEAN Conference on Environmental Education, University of the Philippines, Los Banos, May 24-27.

Rothenberg, D. (1995). A platform of deep ecology. In A Drengson & Y. Inoue (Eds.), *The deep ecology movement: An introductory anthology* (pp.155-166). Berkeley, CA: North Atlantic Books.

Rowlands, I. (1992), Achieving sustainable development: Getting a good thing. [Review of several books] *Third world quarterly 14,* 385-393.

Ruiz, L. E. (1994). *Philippines 2000: Its consequences for religion and the quality of life.* Lecture presented at Filamer College, Roxas City, Philippines.

Sachs, N. et al. (1996). *Greening the north.* London: Zed Books.

Sajise, P. E. (1993). Sustainable land use systems in the Philippines: Some lessons learned. *IESAM Bulletin* XIII (3-4), 14-16.

Sajise, P. & Sajise A.J. (1995). Philippine biodiversity and conservation: Status, issues and prospects. *IESAM Bulletin XVI* (1-2), 1, 15-19.

Salgado, G. (1995). The human factor in development and Philippines 2000: An assessment of the economic program of the Ramos government. *Lectern, 2* (11), 1-8.

Samson, P. (1995). *The concept of sustainable development.* [On-line] Available E-Mail: gci@unige.oh.

Sandlos, J. (1998). The storied curriculum: Oral narrative, ethics, and environmental education. *The Journal of Environmental Education, 30* (1), 5-9.

Scura, L. F., Steer, E. & Kjorven, O. (1997). The world bank and sustainable development: Challenges and imperatives. Environmentally Sustainable Development Studies and Monograph Series No. 19.

Serageldin, I. (1993). Making development sustainable. *Finance and Development, 6-10.*

Serageldin, I. (1997). Foreword. In *Advancing sustainable development: The world bank and agenda 21,* ESD Studies & Monograph Series No. 19. Washington D.C. International Bank for Reconstruction and Development/ the World Bank.

Shrader-Frechette K. S. (1998) *Environmental ethics.* Maryland: Rowman & Littlefield Publishers.

Shiva, V. (1999). Indian farmers protest against pro-liberalization agricultural policy.[On-line] Available: http://www.twnside.org.sg/south/twn/title/pro-ch.htm.

Singh, N. & Titi, V. (1995). Empowerment for sustainable development: An overview. In N. Singh & V. Titi (Eds.),*Empowerment towards sustainable development* (pp. 6-28). Winnipeg: International Institute for Sustainable development.

Skinner, C. (1993). Population myth and the third world. In R. Jackson (Ed.), *Global issues 93/94* (pp. 50-54). Connecticut: Dushkin Publishing Group, Inc.

Smith, C. (1994). *Economic development, growth and welfare.* London: The Macmillan Press.

Smith, D.G. (1983). *The meaning of children in the lives of adults: A hermeneutic study.* Unpublished doctoral dissertation, University of Alberta.

Smith, D.G. (1994). *Pedagon: Meditations on pedagogy and culture.* Brag Creek, AB: Makyo Press.

Smits, H. (1997). Living within the space of practice: action research inspired by hermeneutics. In T. Carson & D. Sumara (Eds.), *Action research as a living practice* (pp.281-297), New York: Peter Lang.

SMU Information Bulletin (1995) .Saint Mary's University.

Social reform agenda...winning the future. (1996, October 1). *Philippine Daily Inquirer,* pp.12-13.

Soriano L.(1995). *Save mother earth: What schools can do.* Quezon City: Phoenix.

Soriano, L., Claudio, C. & Fansler, L. (1995). *Sustainable development: A Philippine perspective.* Quezon City: Phoenix.

SPSC Annual Report (1991). Annual Report ninety one. Cotabato City: SPSC.

SPSC (1994). The twenty-five year (1994-2018) development plan of South Plains State College. Cotabato City: SPSC.

Stapp, W., Wals, A. & Satankorb, S. (1996). *Environmental education for empowerment: Action research and community problem solving.* Iowa: Kendall/Hunt Publishing Co.

Steinberg D. (1994). *The Philippines: A singular and a plural place.* (3rd ed.). Boulder: Westview Press.

Stiles, D. (1991). Power and patronage in the Philippines. *Cultural Survival Quarterly, 15* (1), 71-76.

Strong, M. E. (1990). Foreword. In J. Burger et.al. (Eds.), *The Gaia atlas of first peoples: A future for the indigenous world.* London: Anchor Books.

Strong, M. E. (1992). Foreword. In J. Quarrie (Ed.), *Earth summit 1992* (p.9). London: The Regency Press.

Suzuki, D. (1997). *The sacred balance: Rediscovering our place in nature.* Vancouver: Grey Stone Books.

Tan, J. M. L. (1996, September 23). Bringing books to Filipinos a never ending struggle. *Philippine Daily Inquirer,* pp. C1-C2.

Taylor, S.J. & Bogdan, R. (1998). *Introduction to qualitative research methods: A guidebook and resource.* New York: Hiley.

Teigas, D. (1995). *Knowledge and hermeneutic understanding: A study of the Habermas-Gadamer debate.* Lewisburg: Buchsell University Press.

Thayer, R.L. (1994). *Gray world, green heart: Technology, culture and the sustainable landscape.* NY: John Wiley & Sons.

The Muro-Ami: A destructive method of fishing. (1991, June). *Kinaiyahan Bulletin.* p.16.

Third World Network. (1999). Globalization of agriculture and rising food insecurity. [On-line]: Available: http://www.twnside.org.sg/south/twn/title/food-cn.htm

Timberlake, L. (1987). *Only one earth.* New York: Sterling Publishing Co.

Tjahjadi, R.V. (1990). Multiple cropping versus pesticide use. In Asian NGO Study Tour Report, *Grassroots actions in natural resources management* (pp.44-60), Metro Manila: Asian NGO Coalition for Agrarian reform and rural Development.

Toh, S. H. (1987). Survival and solidarity: Australia and third world (South) peace. *Social Alternatives. 6* (2), 59-65.

Toh, S.H. & Floresca-Cawagas, V. (1987). *Peace education: A framework for the Philippines.* Quezon City: Phoenix.

Toh, S. H. & Floresca-Cawagas, V. (1990). *Peaceful theory and practice in values education.* Quezon City: Phoenix.

Topouzis, D. (1993). The feminization of poverty. In R. Jackson (Ed.) *Global issues 93/94* (pp.132-134). Connecticut: Dushkin Publishing group, Inc.

Torres, A. (1993). Environment, society and development. Paper presented at the Tenth Biennial Conference of the Association of Asian Social Science Research Councils in Kawasaki City, Japan on Sept. 5-12, 1993.

Trzyna, T. (1995). Introduction In T. Tryzyna (Ed.), *A sustainable world: Defining and measuring sustainable development* (pp.15-24).Sacramento: International Centre for the Environment and Public Policy.

Umpa, C.A. (1994). The energy crisis in Mindanao: Focus on the Agus River hydroelectric power plants. *Lectern 1* (5), 1-8.

UNESCO. (1980). *Environmental education in the light of the Tbilisi conference.* Paris, France: UNESCO.

Viederman, S. (1995). Knowledge of sustainable development: What do we need to know? In T. Trzyna (Ed.) *A sustainable world: Defining and measuring sustainable development.* (pp.36-43). Sacramento: International Centre for the Environment and Public Policy.

Wallace, M. B. (1993). Philippine forests: Private privilege or public preserve. *IESAM Bulletin XIII* (3 & 4), pp., 1,6,12 -13.

Wapner, P. (1996). *Environmental activism and world civic politics.* Albany: SUNY Press.

Webb, K. (1986). Structural violence and the definition of conflict. In*World encyclopedia of peace.* (Vol.2, pp.431-434). New York: Pergamon.

Weber, S.J/ The nature of interviewing. *Phenomenology and Pedagogy, 45* (2), 65-72.

Westra, L. (1994). *An environmental proposal for ethics. The principle of integrity.* Maryland: Rowman & Littlefield

Williams, M. (1993). Re-articulating the third world coalition: The role of the environmental agenda. *Third World Quarterly 14* (1), 7-28.

Winograd, M. (1996). Environmental indicators for Latin America and the Caribbean: Tools for sustainability. In T. Trzyna & J. Osborne (Eds). *A sustainable world: Defining and measuring sustainable development* (pp. 198-215). Sacramento, CA: International Centre for the Environment and Public Policy.

Woodhouse, P. (1992) Environmental degradation and sustainability. In R. Allen & A. Thomas (Eds.), *Poverty and development in the 1990s.* Oxford: Oxford University Press.

World Conference on Environment and Development. (1987).*Our common future.* Oxford: Oxford University Press.

Yabes, C. (1990). Samar: Boon or bane? In E. Gamalinda (Ed.), *Saving the earth: The Philippine experience* (pp. 15-19). Metro Manila: Philippine Center for Investigative Journalism.

Zuber, R. (1997). *Lighten your step; Education for shrinking our ecological footprint.* Paper presented at CIED Lecture-Forum, Centre for International Education and Development, University of Alberta.

Zuber, R. (1998). *Cultivating an urban ecological discipline: US Perspectives* . Paper presented at the International Invitational Conference on "Values for the Twenty-first Century: The Challenge and the Gandhian Alternative" organized by the Mahatma Ghandi Canadian Foundation held in Edmonton, AB on June 10-13, 1998.

Appendix A

A Description and Analysis of the Curricular Resource Materials, Research Projects and ESD Initiatives and Community Linkages in the Two Institutions Involved in the Study

A. St. Mary's University

Curricular Resource Materials

Most of the teacher participants use resource materials with an ESD dimension. In subjects like Ethics and Communication Arts, (English), for instance, the teachers collaboratively prepared their own reading materials which constitute the main channel for the integration of ESD. An examination of these compiled readings showed several articles on sustainable development. In "Ethics," the articles include "Ecology" by L. Mercado, "Alternative and Sustainable Development" by K. Bashin and "Social-Ethical Dimensions of Environmental Issues" by R. Intengan. All three articles are reflective of the New Ecological Paradigm as they present critiques of the dominant discourse of development. They advocate alternatives to the prevailing notions about nature and probe into the social and ethical dimensions of mainstream thoughts and beliefs with regard to the environment.

In Communication Arts, (English), articles with an ESD dimension include "The Perils of Plastic Pollution," "Illiteracy is No Stranger in Asia," "Asia in the Future, " "The Human Community," 'Pollution Spoils the Air We Breathe" and others. These articles present facts, figures and real situations dealing with environment and development. Some of the articles however, do not go beyond the presentation of the scenario and do not fully reflect a critical and transformative orientation. For example, in the very short article, "Pollution Spoils the Air We Breathe," although the effects of pollution are presented, it is silent on the causes which could lead to a more critical approach to the problem. The article though, responds to the language focus of the lesson. This illustrates the difficulty of integration - to find an appropriate combination that would respond to the objectives of the course and ESD which is being infused in the lesson. Nevertheless, such limitations offer possibilities for teachers to provide a more in-depth treatment of the themes presented in the articles in the discussions and activities in the classroom.

The text, "Home Economics, Practical Arts and Livelihood Education for College"(1990) by Lardizabal and Diaz is used by education students for their course, "H.E. (Home Economics) and Practical Arts with Livelihood Education." One of the units is on sustainable development for human well-being. This book is supplemented by *Pangkabuhayan ng Bayan* (People's Livelihood) which presents various livelihood projects which could improve the family's economic situation. These materials aim for self-reliance with emphasis on what families can do to uplift their situations.

The library at St. Mary's university is one of the more adequate and better equipped libraries in the region. A survey of its catalogue revealed that the library has several books on environment and development which deal with topics like population growth, pollution, technology, among others. However, as pointed out by one of the participants in the study, most of these materials are written by foreign authors and therefore, lack the Filipino ingredient which would make the lessons more meaningful and relevant to the students. In addition to the library resources are the compiled news clippings, pamphlets and brochures in the Peace Education Center.

Research Projects/Proposals

A research project conducted by the VPAA and some members of the faculty involved the cooperative movement in the Visayas. The research traced the cooperative's initiative to promote the use of organic fertilizers which was initially resisted by the farmers in the area. The cooperative provided education and training on organic fertilizer use but some of the farmers insisted in using the cheaper inorganic fertilizers. Eventually, the cooperative was able to convince the farmers of the long-term benefits of using organic fertilizers. Likewise, as members of the cooperative, the farmers had a ready market for their produce, got a reasonable price which resulted in an increase in their shared capital (Interview, SMU VPAA: 9-6-96).

Other ESD Initiatives

Universities and colleges in the Philippines are open to community activities around them. In this section, I will highlight the activities of the university in coordination with NGOs and the community. The purpose is to show the rich and plentiful activities developed and supported by government, university, NGOs and the people themselves in the massive re-education going on in the Philippines.

The Peace Education Center (PEC)

The Peace Education Center at Saint Mary's University was established in 1988 with the goal of helping the university realize its Vision-Mission through workshops, fora, seminars, conferences, classes and other educational activities. It aims to develop a deeper understanding and interpretation of humanizing values and critical awareness of current issues among faculty, staff and students. It also serves as coordinator for the peace education efforts of the schools under SMEA (Saint Mary's Educational Association) and as liason between the university and the government and non-government organizations in its work towards peace education (SMU Information Bulletin, 1995).

During the data collection period, the university has been actively involved in the peace and development process in the region. The President of the university has actively participated in consultations, meetings and dialogue in the community to promote a peace and development framework for Mindanao. The university has also served as a venue for information dissemination, workshops and conferences especially with regards to the establishment of the Southern Philippines Council for Peace and Development (SPCPD), the special body designed to coordinate and promote the economic and social growth and development in the Special Zone of Peace and Development (SZOPAD) in Southern Philippines.

Since the issue of peace is central to the attainment of sustainable development and because of the social unrest that has time and again plagued the area, the national government has embarked on peace negotiations with one of the major rebel groups the Moro National Liberation Front (MNLF). The Peace Accord between the Government of the Republic of the Philippines (GRP) and the Moro National Liberation Front (MNLF) was initialed on August 30, 1996 in Jakarta, Indonesia (Philippine Daily Inquirer, August 31, 1966) and officially signed at Malacanang Palace in Manila, Philippines on Sept. 2, 1996.

The Peace Education Center also serves as a resource Center for students and instructors of the university. It has a modest collection of resource materials, newspaper clippings, pamphlets and posters which can be accessed by the instructors and students. These materials deal with peace and development issues and they are classified according to topics or themes, with sustainable development among them. Alex, one of the teacher participants in the study from SMU commended the Center for providing relevant materials for his class and for sending invitations to teachers and students to attend workshops, seminars or training which are conducted by the Center itself or organized by other agencies or organizations linked to it.

The Peace Education Center and "Kalinisan"

As the Center for the promotion of peace education in the university and the wider community, the Peace Education Center plays a very significant role in initiating projects and activities geared towards ESD, the issue of the environment being part of its peace framework. Since environmental care is part of the advocacy program of the Center, it plays host Center to *Kalinisan*, an environmental NGO headed by the parish priest of the city. *Kalinisan* has created a stir in the city with its environmental awareness campaign which it carried out through a waste management program. It eventually relinquished the program to the city government due to funding problems. It is now engaged in environmental advocacy and as host Center, PEC whose director is also the executive director of *Kalinisan*, is responsible for coordinating its environmental activities (Interviews, PEC Director: 10-10-96; *Kalinisan* Chairperson: 10-10-96).

Kalinisan had its initial stirrings in 1991 when the parish priest in Cotabato City, noted the seriousness of the garbage situation. He decided to embark on a campaign in the area to raise the consciousness of the people on the need for proper waste management. Gaining the approval of the city government, he led a task force on sanitation and cleanliness. With the support of various sectors, *Kalinisan* as a nongovernmental organization which is mainly concerned about cleanliness and environmental care was formed. The street sweepers were hired and trained on the importance of proper waste management. In turn, they were asked to explain these to the vendors in the market and to the people in the areas where they cleaned to seek their cooperation. The cleanliness campaign was intensified with the use of various information dissemination strategies such as billboards, announcements through a loud speaker and radio and television. Civic organizations and the people in the community were tapped to do a one-day cleanup every month and on special occasions, they had tree planting. In addition, there were environmental seminars on Zero Waste Management for teachers and symposia on environmental care and recycling for the youth. As a member of the general assembly of *Kalinisan*, SMU participated and supported its activities and programs. Student organizations in the university like UNESCO have also developed a good working relationship with *Kalinisan*, hence, the continued partnership in their environmental endeavors. Although the cleanliness campaign received enthusiastic support from the people, the interest seems to have waned when city government took over the program due to problems of funding. Currently based at the Peace Education Center, *Kalinisan* now focuses on advocacy and has been very active in environmental causes notably on the destructive practices of mining companies.

The Peace Education Center -Kalikasan - Barangay No. 6 and the People's Park

One of the environmental initiatives involving the university and the community is the construction of a people's park. Conceived as a health park in 1994 when the plan was initiated, the area which used to be the site of the regional hospital was envisioned to have a herbal garden, a playground for children, a leisure area for the elderly and the handicapped, and lots of trees. (Interview, PEC Director: 10-10-96). The park is a collaborative project of *Kalinisan*, an environmental NGO being hosted by the Peace Education Center, ROTC (Reserved Officers Training Corps) cadets who are into the Civic Welfare Service Program and residents of Barangay 6 at PC Hill. ROTC is a basic military training course required of all male first and second year college students. The participation of the ROTC cadets in the project is in compliance with DECS Order No. 52 s. 1993 requiring all students to enrol in the Expanded ROTC Program mandating ROTC cadets in their second year of training to do civic action work (Academic Internet, 1996). Called *Kalinisan* cadets, since they chose to work on the environment with *Kalinisan*, these students performed clean-up work every Saturday to prepare the park area for eventual landscaping upon completion of the design. Other student organizations like UNESCO, STAPCOM and PILOSOPIYA as well as Peace education students have helped plant trees in the area. Likewise, the Rotary Club has also pledged to put up a Peace Shrine. The barangay captain has welcomed the project and was very appreciative of the efforts of the cadets and the university in improving the environmental situation in their community (Interviews, *Kalinisan* Cadets Adviser: 10-9-96; PEC Director: 10-10-96; Brgy. Captain: 10-16-96)

The Peace Education Center and Uma Center for Development

UCD stands for Uma Center for Development and one of its component projects TRISAD or Tripartite Resources for Integrated Sustainable Area Development is focused on the linkages or partnerships of government agencies, local government units and some private entities. UCD has embarked on various projects, serves as the training Center for People's Organizations (POs) and NGOs as well as a venue for seminars and conferences. Likewise, it serves as a demonstration farm or the show window of what the Center promotes which is the *organic farming system.* According to the Executive Officer of the Center, this system of farming is their "modest response to problems prevailing in the municipality, province or country" brought about by the excessive use of chemical-based materials such as fertilizers and insecticides intensively promoted by the Green Revolution program. In this project, the farmers are taught the technology of organic farming which may not initially produce in the same yield as when chemical-based fertilizers and insecticides are used but may strongly benefit the land in the long term (Interview, UCD Executive Officer, UCD: 9-30-96).

The Peace Education Center of SMU and UCD have been linked through their various programs and projects which have been brought about by their common interest and goal of protecting the environment. This mutual relationship has been nurtured and maintained by pooling their resources and sharing each other's expertise. The Executive Officer of UCD (Interview, UCD Executive Officer, 9-30-96) explained:

> Actually, SMU, the Peace Center especially, we have programs and projects in which we are also participating. so most of the time ,whenever they launch projects which are also related to our field, they always invite us or sometimes get some representatives from our community people to be trained or to participate in trainings, seminars or conferences. Our office is also involved in the formulation of programs or projects which we could launch in particular communities or certain areas. For example, this Liguasan Project now. Our office is involved... we pool our resources in order that we can implement the project. We are also in coordination with PEC in our different projects also. We invite them in our trainings, seminars and conferences to act as resource persons and also as facilitators in seminars and trainings. And also in our research in different areas, for monitoring and evaluation.

Both institutions, together with other NGOs in the region are involved in a project aimed at preserving the biodiversity of Liguasan Marsh, an area which is the focus of foreign investors because of its rich natural resources. As a counter strategy to the government's thrust of inviting foreign investors, the group came up with a proposal to convince the local government units that the exploitation of the natural resources in the Liguasan area will be detrimental to the people. They oppose the plan to drain the marsh so it could be utilized for agricultural purposes because this will affect the lives of the fishermen in the area who depend on fishing for their livelihood. Networking among NGOs greatly strengthens their positions especially in their environmental advocacy campaigns and this has been aptly exemplified by the partnership of TRISAD and PEC (Interviews: PEC Director: 10-10-96; UCD Executive Officer: 9-30-96).

The Community College (CC)

Institutionalized in 1992 in order to "facilitate community empowerment for integral human development" (SMU Information Bulletin, 1995, p.29), the Community College offers short term courses in line with its four programs. They are Continuing Education, Community Education for women, the unemployed and disadvantaged, Sponsored Programs by funding agencies and Community Involvement and Service. Through these programs, the College is able to bring sustainable development issues to the people in the barangays where some government development programs have not been reached.

The Female Functional Literacy Project

In 1993, a female functional literacy project was implemented by the Community College through a UNICEF grant. The project was concentrated on the province of Maguindanao, (where the literacy rate is lowest in the whole country) especially in Datu Odin Sinsuat and Sultan Kudarat, municipalities of the province of Maguindanao. In 1994, three batches of the female functional literacy program were conducted. Several barangays were tapped in this program. Most of the classes are conducted in the barangay halls. The students were advised to bring their own chairs. Since the barangays are not very accessible to transportation, teachers hired and trained for the task usually come from the same area (Interview, CC Training Officer: 8-15-96).

The program differed from the typical adult literacy programs because it was focused more on skills. Health and environmental concepts were integrated with the development of literacy skills so it did not follow the usual ABC's of traditional adult literacy classes. EE concepts were infused in the literacy lessons through topics on sanitation and child care. Besides these topics, they also took up their role as women and as members of the community in the preservation of the environment. They discussed the effects and what they could do about it.

As a means of evaluating the effectiveness of the program after every session, a simple celebration is held to award them their certificates of completion. Although written examinations did not constitute their evaluation procedures, the impact of the program became evident when the teachers saw "the gleam in their students' eyes once they were able to write their names" (Interview, CC Training Officer, 8-15-96). Furthermore, at the end of the session, the students gave their reflections. The training officer related how touching these narration of experiences were. A very significant case was the experience of a 65 year old woman who expressed her gratitude for she could already read the jeepney, (a local public transport) destination signs. She claimed that before the program, she usually got on the wrong jeepneys which not only made it difficult for her to travel to the city and back to the barangay where she lived. As they gained reading, writing and numeracy skills, they also developed a better understanding of health and environmental concepts. So, although the program was very taxing on the part of the teachers and the program staff, to them it was very rewarding in the sense that they have made a difference in the lives of people in the far-flung villages. The program was so successful that there was a clamor from other barangay heads to include their constituents also in the program. The project proposal was submitted again to another funding agency and the College was able to continue with the program on a wider scale tapping ten barangays from each of the two municipalities (Interview: CC Training Officer, 9-15-96.).

Community and Information Planning Systems (CIPS)

Another program implemented by the Community College in 1995 which has an environmental component is the Community and Information Planning Systems program. Funded by the Canadian International Development Agency (CIDA), the college was able to pilot it in 10 barangays of Sultan Kudarat. With the environment component focused on sanitation, the lessons were taught differently using drama as a teaching strategy instead of the usual lecture discussion method. The student theatre group doing their practicum with ACEP (Academic Community Extension Program) was also involved in the program (Interview: CC Training Officer, 9-15-96). A program under the Community College, ACEP's function is to coordinate the outreach program of the colleges in the university . (Interview: SMU VPAA: 11-6-96, p.19).

The drama presentation focused on the environment and was performed to people in the community. The theatre group was also asked by the Commission on Population to perform at the city plaza. The students themselves took charge of the planning, preparation of the script, and the overall stage performance. The presentations were very much appreciated by the people. It was found out to be a more effective way of teaching (Interview: CC Training Officer, 9-15-96).

Community Outreach Project Proposals

In 1996, there were two SD projects which were being explored: a community-based project to improve sanitation in the city and a CIDA-funded project for community education, education at the grassroots level. The VPAA informed me that the second project has taken off in terms of the planning stage. The project was slated to be part of the community extension program of Mass Communication students or the UNESCO Club. One of the aspects of the project is the production of television or radio materials. Students tapped for this project need to be trained on SD and on materials production. The second phase involves the training of government officers and the final phase is focused on the mass base. (Interview,.SMU VPAA,:11-6-96)

Student Organizations

There are several student organizations in SMU which have demonstrated their commitment to the protection and care of the environment by taking part in activities like tree planting, participating in events like World Clean-up Day, conducting environmental workshops, disseminating environmental information, among others. Two organizations, UNESCO and STAPCOM have focused their objectives on environmental issues and concerns.

United Nations Educational Scientific and Cultural Organization (UNESCO) Club

In most universities and colleges in the Philippines, it is very likely that there is a UNESCO club. In Cotabato City, SMU UNESCO Club is the mother chapter of the UNESCO clubs in the different schools in the city as well as in the region. Composed of faculty and students, the club has three main objectives: to promote ecological balance in society, to protect the environment and to help the people become aware of what is happening in the community. The current membership is more than 250.

Headed by an overall adviser, the organization is divided into several committees. The Club has conducted various activities such as exposures, workshops and tree planting. One of the most memorable exposure trips the club had organized was living in the farm. In this trip, the faculty and the students who had been living in the city had the time of their lives adjusting to the new environment. With the accompanying workshops which were conducted in the evenings, the group emerged very much transformed in the way they view their relationship with nature and their fellow human beings (Interview, VPAA, SM U: 11-6-96). The club has been involved in the projects of *Kalinisan* such as its Waste Management Project and the planned People's Park. Presently, the members have been serving as *Kalinisan* peace advocates (Interview: PEC Director, 10-10-96; UNESCO Adviser: 10-9-96). UNESCO also conducted a brief training for farmers on sustainable farming techniques. The group also organized an educational exposure trip to places of interest in Mindanao. (Interview, UNESCO President: 10-4-96).

In the campus, the club has rallied against the use of plastics in the university canteen. The members would like to revert to the use of bottles in order to minimize waste. As well, the club is committed to help in the maintenance of cleanliness in the school campus (Interview, UNESCO President, 10-4-96).

Students, Teachers and Professional Climbers Organization of Mindanao (STAPCOM)

The president of STAPCOM-SMU traces the beginnings of their organization in Davao with two individuals formulating its constitution and bylaws. STAPCOM which means "Students, Teachers and Professional Climbers Organization of Mindanao " aims to protect Mt. Apo and to promote the education of the indigenous people living in the mountain. A mountaineering club, STAPCOM expanded to SMU in Cotabato City in 1994 and has since been active as a student organization. It was ranked 7th out of 58 organizations as most outstanding. A very young organization, STAPCOM has 90 active members. The leadership plans to expand the club's membership to the neighboring colleges and universities in the province.

STAPCOM has been involved in many activities in the campus and in the community. Members have put up *Observe Cleanliness* placards to remind students to maintain cleanliness in the campus. They have organized clean-up drives in various places such as Parang, a municipality of Maguindanao, and also in Mt. Apo. They have been also involved in relief operations in Pigkawayan, a municipality of Cotabato, having affiliated themselves with the PNRC (Philippine National Red Cross). They are also on the lookout for illegal logging or illegal fishing activities since they can file charges against the people committing illegal activities as stipulated in their bylaws. They have plans of conducting symposia by inviting people from the various agencies of the government to disseminate information on the environment (Interview, STAPCOM Pres.:10-4-96).

Media Links

The faculty and staff of SMU used to have a column in the *Mindanao Cross*, one of the local papers in Cotabato city and adjacent towns. The editor, a member of the SMU Board of Trustees, is a staunch environmentalist, having launched a massive tree planting campaign a few years back as President of one of the St. Mary's schools. According to the Vice President for Academic Affaairs, he has extended his invitation to the faculty to come up with articles for publication. A big constraint on the part of the teachers to take the challenge is the lack of time. With the present workload of teachers, they barely have time to write articles that would instill environmental awareness among its readers (Interview, VPAA, SMU: 11-6-96). The *Mindanao Cross* however, and the *Mindanao Kris,* another local paper contain many articles dealing with sustainable development issues and in my conversations with the teacher participants in the study, they often use these articles in their courses.

B. South Plains State College

Curricular Resource Materials

The South Plains State College library is very small compared to that of St. Mary's University. This is because SPSC is still a young institution and its library is still building on its resource acquisitions. It is significant to note though that many of the books and materials they have are on the environment. This may be because the courses they offer deal with the management of resources such as Forestry, Agriculture and Fisheries. Some titles include "Fundamentals of Ecology" by Odum, "Marine Biology: An Ecological Approach" by Nybakken, "The Limits to Growth" by Meadows, et al, "Farming the Small Forest; A Guide for the Landowner" by Wilker; and other science books on biology, botany, microbiology, entomology, geology and zoology. The library compiles its newspapers which provide rich sources of information on environment and development issues. Periodicals and pamphlets include the "Environmental Education Bulletin," a DENR publication, "Prospects," "Science" among others. These resource materials indicate the institution's budding awareness of the relevance of SD and environmental issues.

Education for Sustainable Development Research

Most of the research on ESD conducted by students in the Colleges of Agriculture, Fisheries and Forestry as a "baby thesis" is a requirement for graduation in the degree programs. Samples of the research theses made indicate the emphasis on experimentation to investigate the effect of certain materials, processes or changes in the usual procedures on production, yield or harvest. Because of the time constraint, the faculty have not been able to do as much research because their time is very much concentrated on instruction (Interview, SPSC VPAA: 10-9-96).

The completion of a research project helps students enhance their research skills. With the slant of the students' research thesis on finding more effective ways of increasing production, the thrust is towards "high economic production and sustainable economic growth." Infusing a more critical approach to sustainable development would necessitate a reformulation of the institution's goals which would correspondingly, bring about a shift in the direction and implementation of activities, programs and research projects.

Other ESD Initiatives

With the "Clean and Green" campaign in the city, the emphasis of most environmental activities is concentrated on the cleanliness and beautification drive of its campuses. Tree planting is also occasionally conducted especially in conjunction with the celebration of special events.

South Plains State College (SPSC) and Kabulnan Irrigation and Area Development Project (KIADP)

South Plains State College had a memorandum of agreement with the Kabulnan Irrigation and Area Development Project in four municipalities of Maguindanao, one of the provinces comprising the ARMM (Autonomous Region of Muslim Mindanao). The institution is party to one of the social components of the project which was designed to upgrade the teachers' in their teaching methodology especially on Ecology. The training of the teachers covered a period from November 1995 to April 1996.

This was an important linkage for the VPAA who conducted the training of teachers in the areas affected by the development project. As one who has been strongly influenced by Odum (1971) who wrote a book on Ecology, she regards the project as one way by which SPSC was able to provide the necessary assistance to municipalities which have become the site of development projects. This has made people aware of the hazards brought about by the use of technology. The inclusion of ecological issues in the training of teachers not only intensified the awareness but also brought forth alternative ways of looking at "development".

The Laboratory Site: Barangay Kappia

The eight-hectare area used as a laboratory/practicum area for students in Agriculture, Fisheries and Forestry has been the site of tree planting activities for the College. The faculty and students have planted various kinds of trees like *gemelina* trees in the area. During my visit to the site, I was shown young and small trees planted along the slopes of the hilly portion of the site. As some of the trees were still small, they could hardly be recognized because they were hidden by the tall weeds which have grown luxuriantly around them. This could be because their Clean-Up days could have been at the beginning of the schoolyear and so the weeds have overtaken the trees in a brief span of time. I noticed some seedling beds in a certain area but they were in a state of disarray. I was told it was the nursery.

In one area, there was a group of students tending to their corn plants. They braved the heat of the noonday sun as they examined their plants. A creek lined with tall trees runs along some parts of the site. An unfinished structure divided by temporary partitions stood in one area. It still lacked flooring and the walls on its sides. They were being used as lecture rooms. With the temporary wooden benches, the students had to take down notes on their laps. This situation really imposes a lot of sacrifice on the part of the teachers and students. Furthermore, the distance from the site to the main campus also entails not only travel expenses but also time to wait for a ride back to the main campus.

Insufficient funds has hampered the development of this laboratory site which has recently been acquired by the school. Because of the lack of buildings and facilities, the area may not be able to serve its intended function very well. ESD objectives which aim to provide students with experiences and skills in the various disciplines simply can not be carried out in a situation where the resources are not there. Attention to aspects on infrastructure is therefore very crucial.

The Foundation Anniversary Celebration Theme

The College has adopted for its foundation anniversary celebration theme, "Reengineering SPSC Educational System Geared Towards Sustainable Development." The environmental activities on this occasion centered on a general Clean-Up of the school campus. The main campus which is along a busy section of the city greatly needed the clean-up boost. At one time, in one section of the campus, there was a pile of garbage, mostly paper and plastic, being burned. The general clean-up activity did a lot to change the appearance of the campus. Even the narrow dark area between the gymnasium and the library and agriculture building appeared much brighter. Transforming the campus grounds by covering its dry, barren soil (which turns muddy after a rain) with grass, trees and ornamental and flowering plants would really make a real difference in the climate of the school. The potted ornamental plants which line the area leading to the VPAA office and the herbal plants in the Guidance and Testing Center, really create a more relaxing atmosphere in these areas.

A Department of Environment and Natural Resources (DENR) and South Plains State College (SSPC) Symposium

It has been claimed by most of the teacher participants in the study that the Laboratory High School which is a part of the institution serving as a laboratory for the BSIE students, has been making significant contributions to the college in terms of the many activities that the students themselves plan and organize. In terms of EE/ESD activities during the period of data collection, the high school students and their advisers and Science teachers in cooperation with the DENR-Region XII held a symposium at the SPSC gymnasium on Sept. 13, 1996. College students also attended the symposium. Two representatives from the DENR were the main speakers in the program which was followed by an open forum and culminated with a film showing. The information generated by the symposium instilled an awareness among the students of the significance of protecting and caring for the environment.

Student Organizations

The environmental activities of the student organizations have been mainly focused on the cleanliness and beautification drive of the College (SPSC Annual Report, 1991; Interview, Student Leader, 10-2-96). A one or two-day Clean-up or Tree Planting activity in a semestral term needs to be seriously evaluated in terms of its effectiveness of carrying out the objectives of the cleanliness and beautification drive of the College.

College Extension Services

The Twenty-Year Development Plan of the College(1994) envisions several goals for its extension services. Noting the trilogy of its functions, the College plans to carry out its extension function in a variety of ways.

> The different technical colleges will also render their own special and continuing extension services. Agriculture will have its fruit seedling nursery and goat dispersal program; Forestry, its tree seedling nursery to supply planting materials to the farmers; Fisheries for its demonstration ponds in the modern culture of crabs, shrimps and "bangus" and Industrial Technology , its skills training of OSY(out-of -school youth) of the city (p.74).

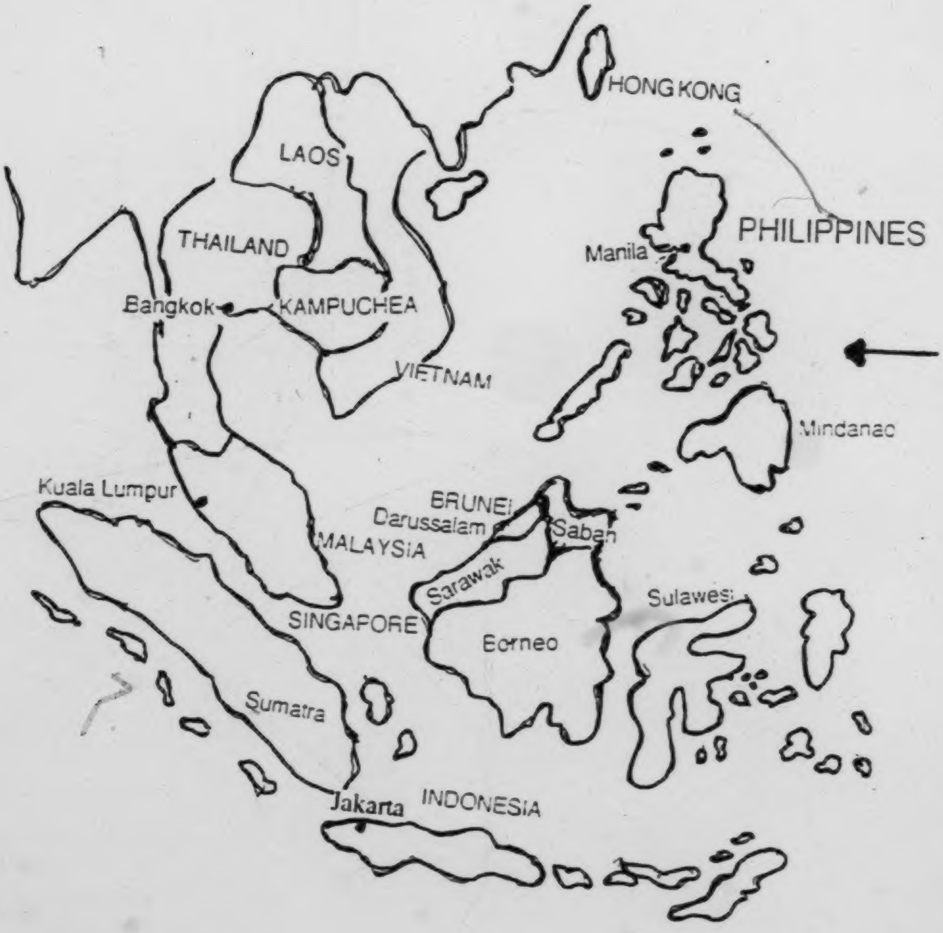
These extension services programs will certainly bring significant contributions to the community in terms of achieving the regional goals of "high economic productivity and sustainable economic growth" (SSPC Twenty-Year Development Plan, 1994, p.51). How these plans are translated into realities usually spells a big difference, however. As the VPAA has contended, "The plan will remain a plan if the effectors will not implement it. The plan is always beautiful. The problem... the bottleneck is always in the implementation" (Interview, SPSC VPAA: 10-9-96).

Although these programs could really enhance people's economic conditions, it is also worthwhile to complement them with a deeper understanding of the causes of environmental degradation and people's poverty. To effectively implement community projects, an information and education component is necessary to bring into people's awareness the need to critically analyze their situations and empower them to make the necessary transformation.

The SD perspective expressed by the VPAA reflects a considerable shift from the institution's slant towards the Dominant Social Paradigm to the New Ecological Paradigm. With her leadership, the institution can hope to fill the gaps to steer the institution's stated goals towards a more critical institutional paradigm of sustainability.

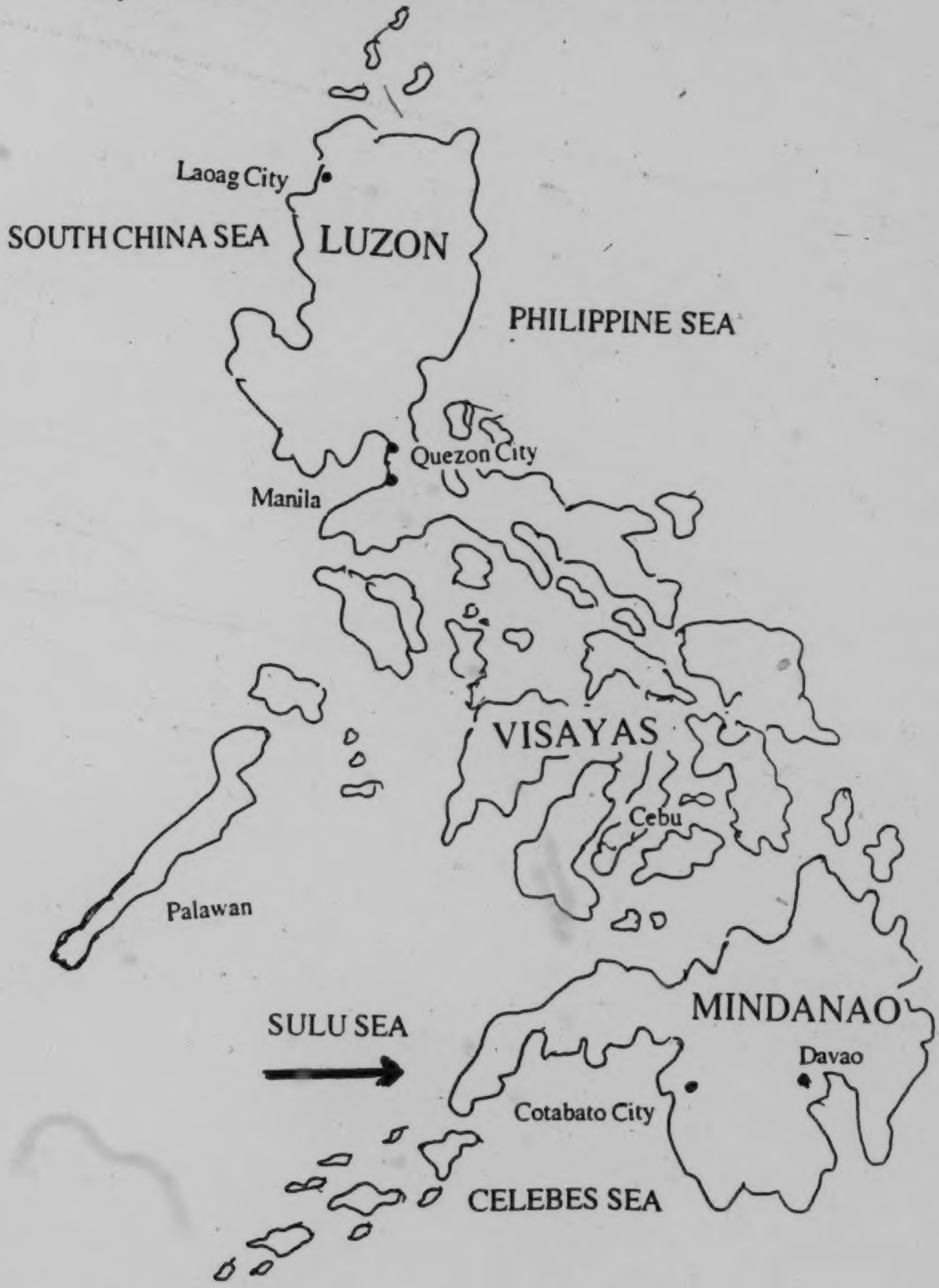
Appendix B1

Map Showing the Philippines' Geographic Position in South East Asia


HONG KONG
LAOS
PHILIPPINES
Manila
THAILAND
Bangkok
KAMPUCHEA
VIETNAM
Mindanao
Kuala Lumpur
BRUNEI
Darussalam
Sabah
MALAYSIA
Sarawak
Sulawesi
SINGAPORE
Borneo
Sumatra
Jakarta
INDONESIA

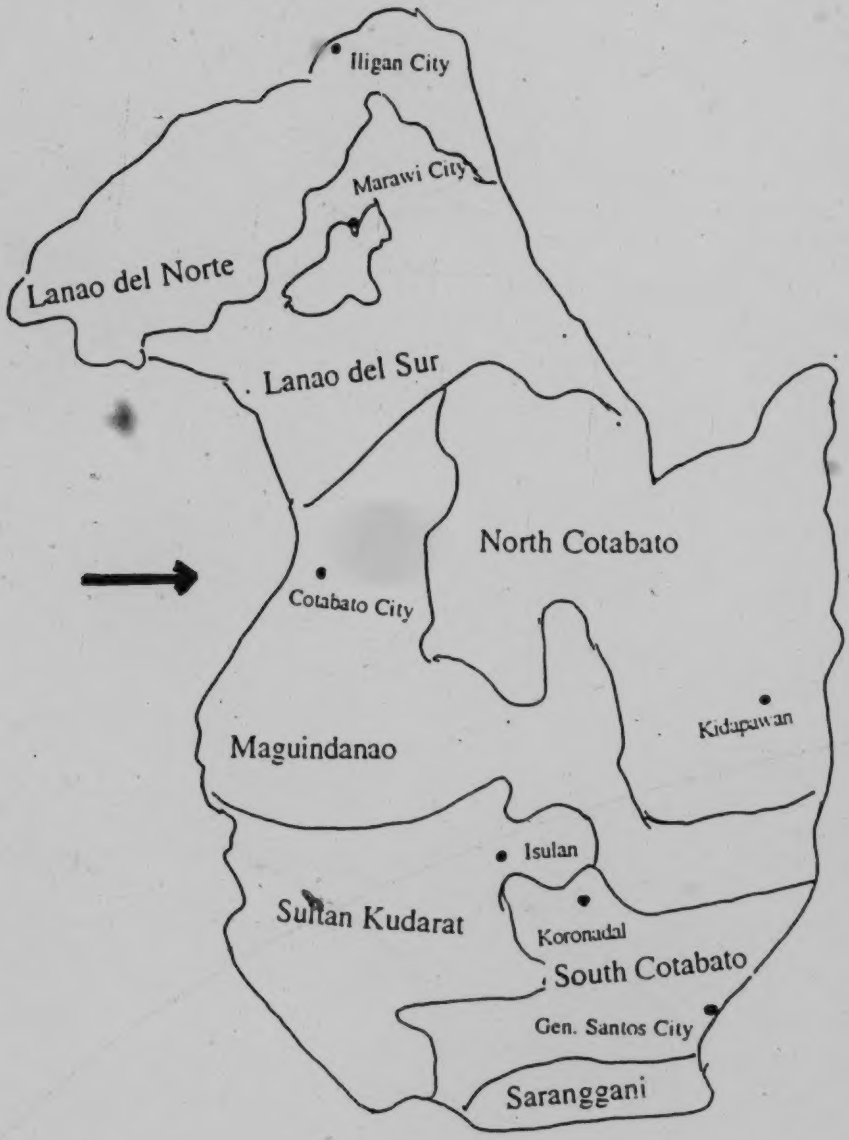
Appendix B2

Map Showing the Location of the Mindanao Region in the Philippines


Laoag City
SOUTH CHINA SEA
LUZON
PHILIPPINE SEA
Quezon City
Manila
VISAYAS
Cebu
Palawan
MINDANAO
SULU SEA
Davao
Cotabato City
CELEBES SEA

Appendix B3

Map Showing the Location of Cotabato City in Central Mindanao


Iligan City
Marawi City
Lanao del Norte
Lanao del Sur
North Cotabato
Cotabato City
Kidapawan
Maguindanao
Isulan
Sultan Kudarat
Koronadal
South Cotabato
Gen. Santos City
Saranggani